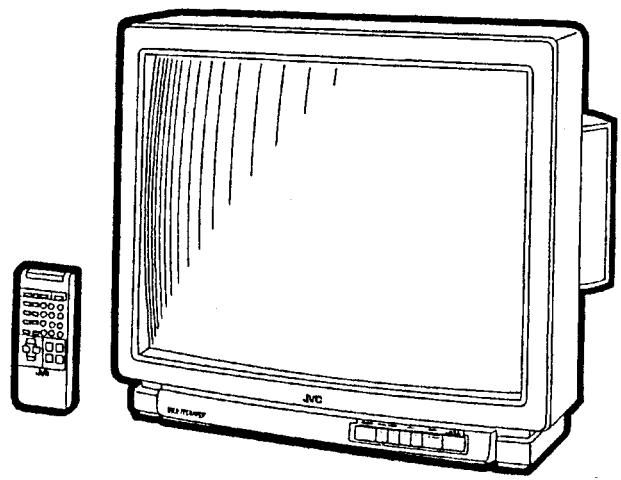
JVC

SERVICE MANUAL

31" COLOR MONITOR / RECEIVER

AV-3150S(us)

BASIC CHASSIS
GXII



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No.50376
July 1990

SPECIFICATIONS

Item	Content
Dimensions	75.0cm(W)×55.5cm(D)×65.9cm(H)
Weight	55.1kg
TV System and Color, Sound System	
TV RF System	CCIR(M)
Color, Sound System	NTSC,BTSC (Multichannel Sound)
TV Receiving Channels and Frequency	
VL Band	(02~06) 54MHz~88MHz
VH Band	(07~13) 174MHz~216MHz
UHF Band	(14~69) 470MHz~806MHz
CATV Receiving Channels and Frequency (Quartz Synthesizer System)	(54MHz~804MHz)
Low Band	(02~06, A-8) by (02~06, 01)
High Band	(07~13) by (07~13)
Mid Band	(A~I) by (14~22)
Super Band	(J~W) by (23~36)
Hyper Band	(W+1~W+28) by (37~64)
ULTRA Band	(W+29~W+84) by (65~125)
Sub Mid Band	(A8, A4~A1) by (01, 96~99)
TV / CATV Total Channel	180 Channels
Imtermediate Frequency	
Video IF Carrier	45.75MHz
Sound IF Carrier	41.25MHz (4.5MHz)
Color SUb Carrier	3.58MHz
Antenna Input Impedance	75Ω (VHF / UHF) Terminal, F-Type Connector
Power Input	120V AC, 60Hz
Power Consumption	160W (max.) ,110W (avg.)
Picture Tube	31"In-Line Type, Full-Square Tube
Viewable Picture Size	63.0cm (W)×47.2cm (H)
High Voltage	31.0kV ±1.3kV (at zero beam current)
Speaker	8×12cm oval Type. 8Ω ×2
SP Terminal	6~8Ω
Audio Power Output	3W+3W
Video External Input	1 Vp-p 75Ω
Audio External input	500 mV rms (-4dBs), High Impedance
Video Line Output	1 Vp-p 75Ω
Audio Line Output	500 mV rms (-4dBs) Low Impedance (400Hz, 100% modu.)
S-VIDEO IN	Y:1 Vp-p (burst signal), 75Ω C:0.286 Vp-p (burst signal), 75Ω
Variable Audio Output	More than 0~1550mV rms (+6dBs) Low Impedance (400Hz, 100% modu.)
Tube	1
IC	18 (In TV), 1 (In REMOCON)
Transistor	50 (IN TV), 2 (In REMOCON)

Design & specification subject to change without notice.

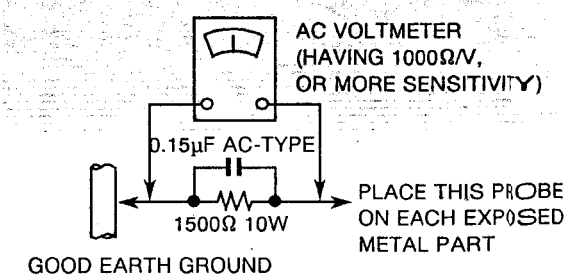
SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection,no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual many create shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**
   The chassis and any sub-chassis contrained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and NEUTRAL side grounding or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE (⊥) side GND, the NEUTRAL (⏚) side GND and EARTH (⏚) side GND. Don't short between the LIVE side GND and NEUTRAL side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and NEUTRAL side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B_1 setting should be checked or adjusted (See ADJUSTMENT OF B_1 POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approvided by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
10. **Isolation Check**
    (Safety for Electrical Shock Hazard)
    After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs,metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.) Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

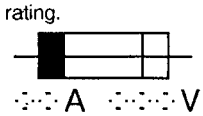
• Alternate Check Method
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement, Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).



11. **High voltage hold down circuit check.**
    After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
    See item **"How to check the high voltage hold down circuit"**.

■ **ONLY CANADA**

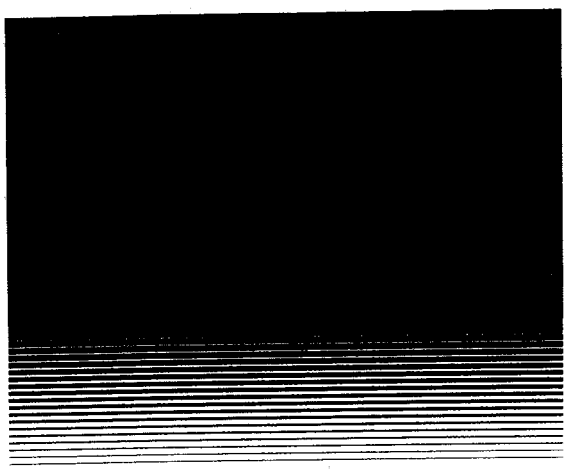
This mark shows a fast operating fuse, the letters indicated below show the rating.

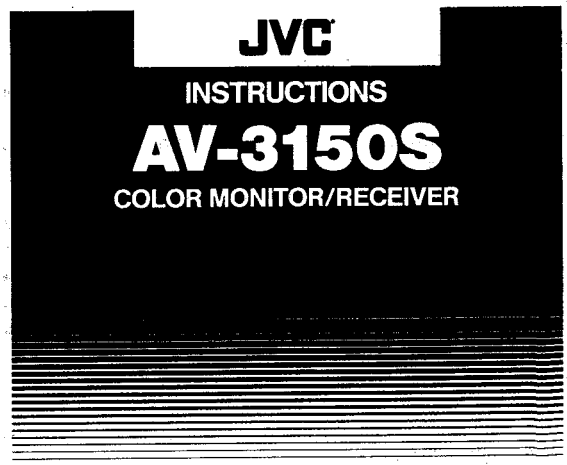


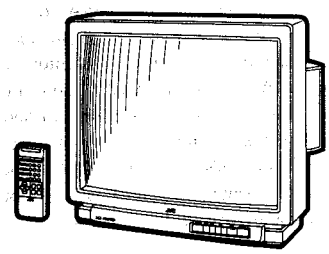
FEATURES

- New chassis design enables use of a single board with simplified circuitry.
- The VNR notch function ensures crisp and clear images.
- MASTER COMMAND Ai remote control with multi-color on-screen "Menu" display,allowing interactive,total TV operation.
- PLL synthesizer system TV / CATV totaling 180 channels.
- The AV input terminal, sound input, external speaker output terminal, and audio output terminal allow for a variety of connections to different AV equipment.

OPERATING INSTRUCTIONS







For Customer Use:
Enter below the Serial No. which is located on the rear of the cabinet. Retain this information for future reference.
Model No. AV-3150
Serial No.

SAFETY PRECAUTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS TV SET TO RAIN OR MOISTURE.

Caution:
Changes or modifications not approved by JVC could void the user's authority to operate the equipment.

CAUTION: TO INSURE PERSONAL SAFETY, OBSERVE THE FOLLOWING RULES REGARDING THE USE OF THIS UNIT.

1. Operate only from the power source specified on the unit.
2. Avoid damaging the AC plug and power cord.
3. Avoid improper installation and never position the unit where good ventilation is unattainable.
4. Do not allow objects or liquid into the cabinet openings.
5. In the event of trouble, unplug the unit and call a service technician. Do not attempt to repair it yourself or remove the rear cover.

Caution:
When you do not use this TV set for a long period of time, be sure to disconnect the power plug from the AC outlet for your safety. If the TV set is plugged into an AC outlet, a small amount of current is applied to the TV set even if the TV set's power is turned off.

Thank you for purchasing a JVC color monitor/receiver (TV). Your JVC TV carries many useful features including the MASTER COMMAND *Ai* system which allows operation of all TV functions via a single remote control unit.
To ensure your complete understanding, please read all instructions in this booklet before operation.

FEATURES

- 31-Inch FS (Full-Square) picture tube.
- Comb filter for improved picture quality.
- 180-Channel cable-compatible frequency synthesizer tuner with built-in MTS decoder.
- Video Noise Reduction circuitry to eliminate on-screen picture noise.
- Notch filter for preventing dot-interference at picture edges.
- S-VIDEO input terminal for taking best advantage of Super VHS.
- Video/audio input, line output and variable audio output terminals.
- Surround sound capability with external speaker terminals.
- MASTER COMMAND *Ai* remote control with multi-color on-screen "Menu" display, allowing interactive, total TV operation.

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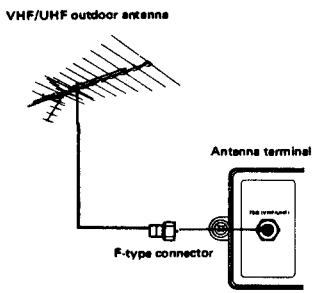
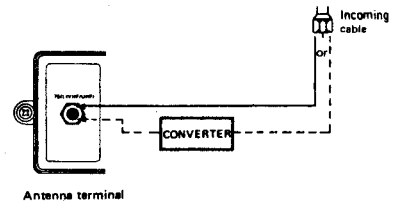
INSTALLATION

ANTENNA CONNECTIONS

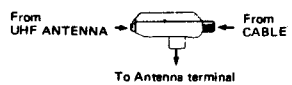
An outdoor antenna is recommended for good TV picture reception. (For installation of the outdoor antenna system, consult your local dealer.)



CABLE TV CONNECTIONS



- Some cable companies require a converter box to receive all available programs. Others may require it for subscription or "premium" programming. Consult your local cable company for correct installation.
- When connecting both a cable (75-ohm coaxial) and a UHF antenna (300-ohm feeder), use the optional antenna mixer (CE41467) to make a single connection.

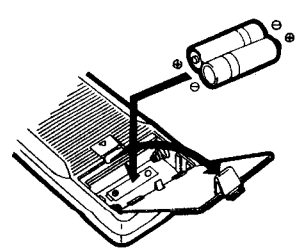


Note: With this antenna mixer, reception of cable channels higher than "Channel W + 17" is not possible.

REMOTE CONTROL USE

Correct Use
- Point to Remote Control Sensor ● of the TV set.
- The maximum operable distance is approximately 23 ft (7 meters) from the Remote Control Sensor, and no more than 30° to either side of center.
- Operation of the Remote Control is most effective when there is nothing between it and the Remote Control Sensor.
- Duration of the batteries is approximately 6 months to 1 year. (Duration varies according to frequency of use.) Replace the batteries when the remote operation becomes unstable.

Battery Installation/Notes
- Press the tab and lift up the cover in the direction of the arrow.
- Correctly install the batteries, observing (+/-) polarities as shown.
- Do not use a combination of old and new batteries or batteries of different types.
- If batteries become exhausted, remove and replace them soon.
- If Remote Control will not be used for more than 2 weeks, remove batteries.
- When battery leakage occurs, clean the battery compartment with a soft cloth and replace the batteries.

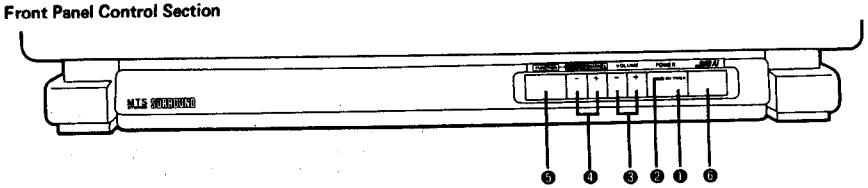


(No.53376) 5

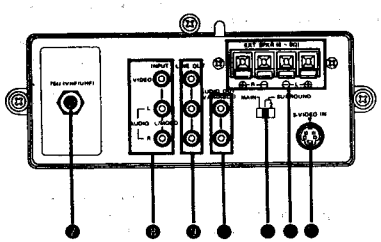
AV-3150S

CONTROLS AND THEIR LOCATIONS

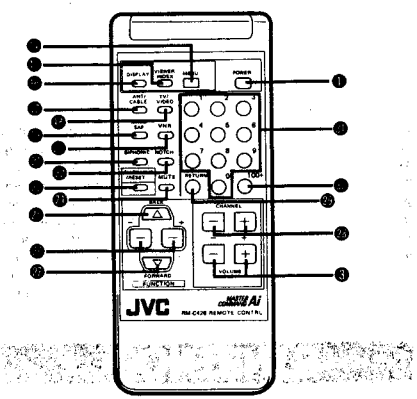
Front Panel Control Section



Rear Panel Control Section



Remote Control Section



- ❶ POWER button
- ❷ POWER/ON TIMER indicator
- ❸ VOLUME (-/+) buttons
- ❹ LEVEL/CHANNEL (-/+) buttons
- ❺ FUNCTION button
- ❻ Remote Control Sensor
- ❼ Antenna terminal
- ❽ VIDEO/AUDIO INPUT connectors
- ❾ LINE OUT connectors
- ❿ AUDIO OUT (VARIABLE) connectors
- ⓫ EXT SPKR switch
- ⓬ EXT SPKR terminals
- ⓭ S-VIDEO IN connector
- ⓮ MENU button
- ⓯ VIEWER INDEX button
- ⓰ DISPLAY button
- ⓱ ANT/CABLE button
- ⓲ TV/VIDEO button
- ⓳ MAIN/SAP button
- ⓴ VNR button
- ㉑ BIPHONIC button
- ㉒ NOTCH button
- ㉓ AV STATUS/RESET button
- ㉔ MUTE button
- ㉕ FUNCTION BACK button
- ㉖ FUNCTION (-/+) buttons
- ㉗ FUNCTION FORWARD button
- ㉘ CHANNEL (-/+) buttons
- ㉙ RETURN button
- ㉚ 100+ button
- ㉛ 10-Digit Keypad

*Please refer to the above numbers on the following pages.

TV OPERATION

First Preparations

- **Connect either Antenna or Cable TV** by following "INSTALLATION" instructions on page 3.
- **Insert batteries into the Remote Control unit** by following "REMOTE CONTROL USE" instructions on page 3.
- **Connect the power cord** to 120 V, 60 Hz AC outlet. The power cord is supplied with a polarized plug. Therefore, it will only insert one way into the wall outlet. DO NOT DEFEAT THE POLARIZED PLUG. If you have difficulty, consult your local dealer.

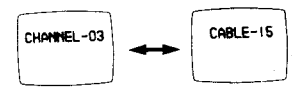
Basic Operating Procedure

1 Press POWER button ❷ on either the Remote Control or front panel. POWER/ON TIMER indicator ❷ lights. Press this button again to turn power off.

Note: If the POWER/ON TIMER indicator remains lit even after the power is turned off, it shows the DUAL ON TIMER is in operation. See "6. DUAL ON TIMER" on page 10 and "4. HOME SITTER" on page 9.

2 Press TV/VIDEO button ❷ on the Remote Control (or the FUNCTION and LEVEL/CHANNEL (-/+) buttons on the front panel) to select the TV mode.

3 Press ANT/CABLE button ❷ on the Remote Control to select the broadcast mode. Each time it is pressed, the mode is switched between "CHANNEL" and "CABLE". When connected to an antenna, select "CHANNEL" mode for normal VHF/UHF reception. When connected to cable TV, select "CABLE" mode. The on-screen display will show the following:



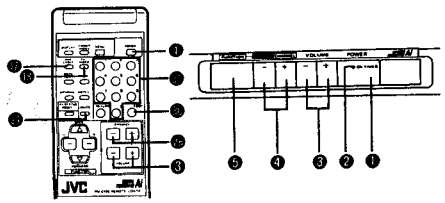
Notes:
- For mode selection using the front panel controls, see "FUNCTION BUTTONS" on next page.
- In the VIDEO mode, if the ANT/CABLE button is pressed, the mode is switched to the TV mode.

4 Select desired channel using CHANNEL (-/+) buttons ❷ on the Remote Control (or LEVEL/CHANNEL (-/+) buttons ❹ on the front panel). Pressing the (+) button advances to higher channels, (-) button to lower channels.

Note: Certain channels have been preset at the factory. It may be necessary to add or erase some channels in your areas. See "9. INITIAL SET-UP" on page 13 for presetting channels.

- Channels can be selected directly by using 10-Digit Keypad ❷ on the Remote Control. For example, if you select channel 5, press "0" first, then press "5". (Be sure to press "0" first, before pressing "5" for channel 5.) For cable channels of 3-digit numbers, use 100+ button ❷. For example, if selecting channel 120, press the 100+ button first, then press "2", then "0". Also refer to the 'CABLE TV CHANNEL CONVERSION CHART below.

Notes:
- When a video source such as a VCR is connected to the antenna terminal to be viewed on Channel 3 (or Channel 4), sometimes channel selection may result in an unclear or distorted picture. In this case, re-select Channel 3 (or 4) and the picture will become clear. (Also in this case, be sure to press "0" first, before pressing "3" (or "4") for Channel 3 (or Channel 4).)
- In the VIDEO mode, if either CHANNEL (-/+) button is pressed, the mode is switched to the TV mode.



5 Press VOLUME (-/+) buttons ❷ on either the Remote Control or front panel to adjust volume to your desired listening level. Pressing the (+) button will increase sound volume, the (-) button will decrease sound volume. The volume level is indicated on the screen by reference number (0 – 50) and by bar scale as shown.

Note: The volume level can be muted instantly by pressing MUTE button ❷ on the Remote Control. See "MUTE Button" on page 18. Also, a mute level setting is possible. See "7. SET MUTE LEVEL" on page 16.

On-Screen Display

- Once the on-screen display appears on the screen, it disappears in a few seconds. (Only the clock time can be kept displayed on the screen. See "DISPLAY Button" on page 18.)
- When tuned to a channel where no program is being broadcast, the on-screen display may be unclear or blurred.
- On-screen displays are available in two different layouts (except for displays of the channel number and clock time). See "6) MESSAGE STYLE" of "9. INITIAL SET-UP" menu on page 15 for selecting the display mode.
- Channel numbers of the "VIEWER INDEX" can be displayed with their station call letters. If you prefer to do so, enter the station call letters when you program channels under "VIEWER INDEX". See "8) SET VIEWER INDEX" of "9. INITIAL SET-UP" on page 16.

CABLE TV CHANNEL CONVERSION CHART

In addition to normal TV reception from an antenna for VHF (Channels 2 – 13) and UHF (Channels 14 – 69), your TV set is equipped to receive non-scrambled cable TV channels. Sub-Mid band (A-8, A-4 – A-1), Mid band (A–I), Super band (J – W), Hyper band (W+1 – W+28) and Ultra band (W+29 – W+84) can be received by using the channel selections as shown in the following chart.

*	A-8	A-4	A-3	A-2	A-1	A	B	C	D	E	F	G	H	I	J	K	L	M	N
**	01	96	97	98	99	14	15	16	17	18	19	20	21	22	23	24	25	26	27
*	O	P	Q	R	S	T	U	V	W	W+1	W+2	W+3	W+4	W+5	W+6	W+7	W+8	W+9	W+10
**	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
*	W+11	W+12	W+13	W+14	W+15	W+16	W+17	W+18	W+19	W+20	W+21	W+22	W+23	W+24	W+25	W+26	W+27	W+28	W+29
**	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
*	W+30	W+31	W+32	W+33	W+34	W+35	W+36	W+37	W+38	W+39	W+40	W+41	W+42	W+43	W+44	W+45	W+46	W+47	W+48
**	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
*	W+49	W+50	W+51	W+52	W+53	W+54	W+55	W+56	W+57	W+58	W+59	W+60	W+61	W+62	W+63	W+64	W+65	W+66	W+67
**	85	86	87	88	89	90	91	92	93	94	100	101	102	103	104	105	106	107	108
*	W+68	W+69	W+70	W+71	W+72	W+73	W+74	W+75	W+76	W+77	W+78	W+79	W+80	W+81	W+82	W+83	W+84		
**	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125		

* : Regular cable channel designations
** : Your TV set's corresponding on-screen CABLE channel numbers

Note: Reception of channel A-5 ("95" of the TV set's on-screen CABLE channel numbers) is not recommended for your TV set.

FUNCTION BUTTONS

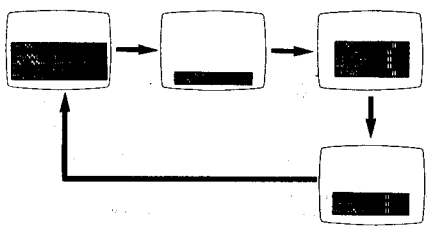
The FUNCTION button on the front panel selects the control modes for TV operation and picture/sound adjustment.

- Press FUNCTION button ❸ on the front panel. The first time it is pressed, the following display appears on the screen.

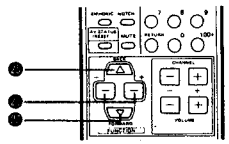
- At this time, the top line shows the current channel number.

Press FUNCTION button ❸ to select the desired item for adjustment. Each time the FUNCTION button is pressed, the magenta-colored portion shifts in the order below to show that the colored item in the list can be adjusted.

Note: Four pages of on-screen displays are available with the FUNCTION button.



1 CHANNEL SELECT mode
2 ANTENNA/CABLE SELECT mode
3 TV/VIDEO SELECT mode
4 MTS SELECT mode
5 VNR ON/OFF mode
6 NOTCH ON/OFF mode
7 TINT adjustment mode
8 COLOR adjustment mode
9 PICTURE adjustment mode
10 BRIGHT adjustment mode
11 DETAIL adjustment mode
12 BASS adjustment mode
13 TREBLE adjustment mode
14 BALANCE adjustment mode

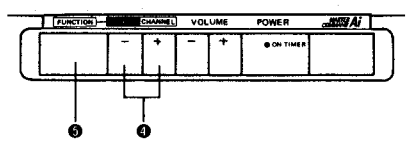


Note: The Remote Control's FUNCTION BACK button ❼ or FORWARD button ❽ **selects only picture and sound adjustment modes: TINT, COLOR, PICTURE, BRIGHT, DETAIL, BASS, TREBLE and BALANCE.** The other control modes can be selected directly with the Remote Control's respective buttons. Pressing FUNCTION FORWARD button ❽ advances the colored portion in the order as shown on the left for "picture/sound adjustment modes", pressing FUNCTION BACK button ❼ advances in the reverse order.

- After selecting the desired mode, press LEVEL/CHANNEL (-/+) buttons ❹ on the front panel or FUNCTION (-/+) buttons ❽ on the Remote Control while the selected mode indication is being displayed to make your preferred adjustment. The Remote Control's FUNCTION (-/+) buttons ❽ control **only picture and sound adjustments.**

Notes:

- When using the front panel buttons, before the FUNCTION button is pressed for the first time with nothing displayed on the screen, the TV is in the "CHANNEL SELECT" mode. Therefore, in this mode, channel selection is possible by pressing LEVEL/CHANNEL buttons ❹ on the front panel.
- After completing picture and sound adjustments from the Remote Control, pressing either FUNCTION (-) or (+) button ❽ will return directly to the last chosen adjustment mode.

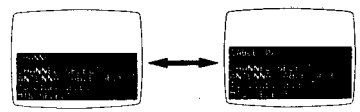


1 CHANNEL SELECT mode

In this mode, press LEVEL/CHANNEL (+) button ❹ on the front panel to scan up the channel, and (-) button to scan down the channel.
(The screen illustrations below show the case when the TV is in the "CHANNEL" mode. When in the "CABLE" mode, the "CABLE" indication appears instead of "CHANNEL".)

2 ANTENNA/CABLE SELECT (broadcast) mode

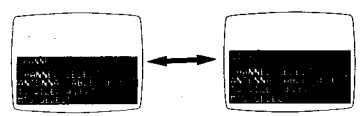
In this mode, press LEVEL/CHANNEL (-/+) buttons ❹ on the front panel to change the broadcast mode between "CHANNEL" (for regular VHF/UHF channels) and "CABLE" (for cable channels).



3 TV/VIDEO SELECT mode

In this mode, press LEVEL/CHANNEL (-/+) buttons ❹ on the front panel to switch the mode between "TV" (for off-air or cable TV broadcasts) and "VIDEO" (for video source which is connected to the TV set's VIDEO/AUDIO INPUT connectors ❷ or S-VIDEO IN connector ❷). See "CONNECTING TO EXTERNAL EQUIPMENT" on page 19.

Note: Mode selection can also be performed with TV/VIDEO button ❽ on the Remote Control.



4 MTS SELECT mode

Your TV set incorporates an MTS (Multichannel Television Sound) decoder to receive stereo broadcasts and any accompanying SAP (Second Audio Program), such as a bilingual broadcast.
Available sound will be:
(1) Monaural (MAIN) audio program (regular broadcasts)
(2) STEREO (MAIN) audio program
(3) Second Audio Program (SAP)
In this mode, the "← ON AIR" shows that MTS mode is now being broadcast. Press LEVEL/CHANNEL (-/+) buttons ❹ to change the reception mode among "STEREO", "SAP" and "MONO".
Each time it is pressed, the color of the indication changes from blue to magenta to show that the mode has just been switched.

Notes:

- Mode selection can also be performed with MAIN/SAP button ❽ . Each time it is pressed, the mode changes in the order of "STEREO" – "SAP" – "MONO" – "STEREO".
- If the TV set is kept always set to the stereo mode, when a stereo broadcast is received, stereo sound is output automatically.
- If the received stereo signal is weak, noise may be heard. In such a case, press LEVEL/CHANNEL (-/+) buttons ❹ (or MAIN/SAP button ❼) to engage the MONO mode for better sound reception.
- If the received SAP signal is weak, the SAP will not be heard. Select the MONO mode for better sound reception.
- Even if both stereo and SAP broadcasts are received, both broadcasts cannot be heard at a time.

When using the TV set for cable reception

Transmission of Cable TV signals may differ from off-air TV broadcasts. It is possible that the multichannel TV sound (MTS) may not be received satisfactorily.

5 – 6 VNR/NOTCH ON/OFF modes

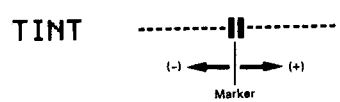
In these modes, press LEVEL/CHANNEL (-/+) buttons ❹ on the front panel to switch on and off the VNR and Notch functions. For details of those functions, see "MORE USEFUL FUNCTIONS" on page 18.

7 – 14 Picture/sound adjustment modes

In these modes, an adjustment scale with a marker appears on the screen. Press LEVEL/CHANNEL (-/+) buttons ❹ on the front panel or FUNCTION (-/+) buttons ❽ on the Remote Control to fine adjust each item to your preference according to the chart below. (The center position is only a reference level, rather than a standard setting.)

(-)	Item	(+)
Reddish	TINT	Greenish
Subdued	COLOR	Vivid
Light	PICTURE	Strong
Dark	BRIGHT	Bright
Soft	DETAIL	Sharp
Soft	BASS	Strong
Soft	TREBLE	Strong
Left	BALANCE	Right

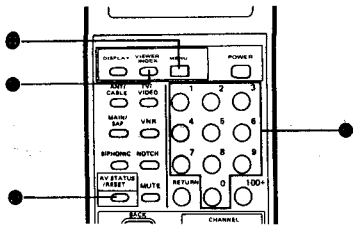
Note: When you wish to restore all adjustment modes to their scale's center position, use AV STATUS/RESET button ❼ . For details, see "AV STATUS/RESET Button" on page 15.

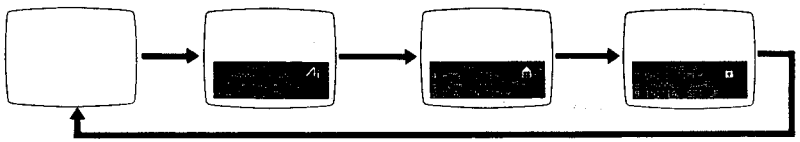


MENU BUTTON

The "MENU" button selects a list of functions that can be programmed for operating the TV more conveniently. This function is possible only on the Remote Control.

- Press MENU button ● on the Remote Control to display the list of programmable convenience functions on the screen. The "MENU" consists of 3 pages. Press the MENU button repeatedly to display the pages in the sequence below.
- Press numbers "1" through "9" on 10-Digit Keypad ● to select the corresponding function in the numbered "MENU".





PAGE-1

1. CHANNEL SCAN

This feature allows automatic scanning, in ascending order, of the channels which have been stored following the procedures of "9. INITIAL SET-UP" (described on page 13).

1) With "PAGE-1" MENU displayed on the screen, press "1" of 10-Digit Keypad ●
   - All memorized channels (either "CHANNEL" or "CABLE" mode) will now be scanned sequentially in ascending order beginning with the channel that the TV is tuned to. Scanning will stop automatically when the original channel is reached. "SCAN STOP" appears to show the CHANNEL SCAN mode has finished.

2) Press any button on the Remote Control, if you wish to stop scanning at a certain channel before the original channel is reached.
   To resume scanning, press MENU button ⓯ and then "1" of 10-Digit Keypad ● .

Notes:

- When the TV is in the "CABLE" mode, the "CABLE" indication appears on the screen instead of "CHANNEL".
- For changing memorized channels, see "9. INITIAL SET-UP".
- If you wish to start CHANNEL SCAN at a specific channel, first select the broadcast mode (CHANNEL or CABLE) then that channel number, and then follow instructions on the left.
- While actual CHANNEL SCAN is being performed, all front panel buttons become inoperable.
- In the VIDEO mode, if the CHANNEL SCAN menu is selected, the mode is switched to the TV mode; the CHANNEL SCAN function does not operate in the VIDEO mode.

2. YOUR FAVORITES

This feature displays Real Channels in two categories, "DAYTIME" and "EVENING", by ranking the three most-frequently-viewed channels in each category. Any of the channels displayed on the screen can also be tuned to directly using the 10-Digit Keypad.

1) With "PAGE-1" MENU displayed on the screen, press "2" of 10-Digit Keypad ● . The display will show:

(Sample of channel ranking)

2) While the above is being displayed, a channel can be directly tuned to by pressing "1", "2" or "3", corresponding to the number indicating the channel you wish to view.

Notes:

- When the clock has not been set or is not operating, the YOUR FAVORITES function cannot be operated.
- "DAYTIME" is from 4:00 a.m. to 5:59 p.m. "EVENING" is from 6:00 p.m. to 3:59 a.m. Only the three most-frequently-viewed channels of the current time span ("DAYTIME" or "EVENING") are displayed on the screen.

3. AUTO VOLUME

Normally, you adjust volume at different times of the day. For example, you tend to turn down the volume when watching TV late at night. This feature memorizes all volume adjustments you make for five days after the clock is set. After that, volume is automatically adjusted according to the pattern of adjustments you made at specific times during that five-day period.

1) With "PAGE-1" MENU displayed on the screen, press "3" of 10-Digit Keypad ● . The display will show:

2) Press "1" to set the AUTO VOLUME function to ON. (Press "2" for OFF.)
   - While AUTO VOLUME is ON, the following "AUTO" indication appears on the upper part of the volume level reference scale.

Notes:

- When the clock has not been set or is not operating, the AUTO VOLUME function cannot be operated. Also, for five days after the clock has been set, AUTO VOLUME does not operate, since that amount of time is required for storing the data of volume levels for each period of time in memory. (When power is off, or the muting function is operated, or the clock is not operating, or audio volume controls are adjusted, the volume level data is not stored in memory.)
- For 30 minutes after an audio volume setting, AUTO VOLUME does not operate.
- Adjustments of volume levels are limited to within ±5 to prevent an abrupt, extreme change in volume level.
- Automatic volume adjustment is performed every hour.

PAGE-2

4. HOME SITTER

The "HOME SITTER" feature enables the TV to be turned on and off automatically at preset times every day.

With "PAGE-2" (or "PAGE-1" or "PAGE-3") MENU displayed on the screen, press "4" of 10-Digit Keypad ● . The display will show:

- At this time, if the display of "POWER INTERRUPTED/ WOULD YOU SET CLOCK FIRST? appears, it shows that the clock is not operating, and the HOME SITTER will not function.
  Press "1" (YES) to set the clock. (If "2" (NO) is pressed, the message "YOU CANNOT OPERATE HOME SITTER!!" is displayed.)
  Set the clock. See "3) SET CLOCK" of "9. INITIAL SET-UP" on page 14 for details regarding clock setting. After setting the clock, the message "THANK YOU!!" appears to show that the clock has just been adjusted and the HOME SITTER is now ready to be set.

1) SET

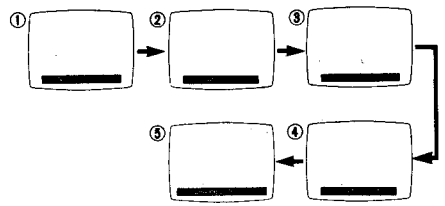
Press "1" to place the HOME SITTER in standby. The ON/OFF time and channel number which have been previously set will be displayed. When the POWER button is pressed to turn the TV off, POWER/ON TIMER indicator ❷ lights and "YES" appears on the screen to show that the HOME SITTER is in operation.

2) CANCEL

Press "2" to cancel the HOME SITTER. "NO" appears to show that the HOME SITTER has been canceled.

3) CHANGE

Press "3" to re-adjust the HOME SITTER setting. Follow the on-screen displays to set the switch-on time, switch-off time and channel number, using the 10-Digit Keypad.



① Set the switch-on time.
② Select "AM" or "PM".
③ Set the switch-off time.
④ Select "AM" or "PM".
⑤ Set the channel number.

When the channel number is set, the display will show:

- This display shows that the HOME SITTER is set to switch the TV on at 6:30 PM, switch it off at 11:00 PM and the channel to be received is "CABLE 13".

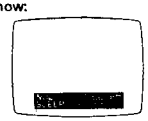
Notes:

- If an invalid time or channel number is selected, it will be rejected and it must be reset properly.
- First select the broadcast mode (CHANNEL or CABLE) of the channel you wish to set for the HOME SITTER with ANT/CABLE button ● on the Remote Control before entering the HOME SITTER mode, since broadcast mode switching while in the HOME SITTER will cancel the mode.
- If you wish to reset the switch-on time only, stop keying in data (waiting until the on-screen display disappears) after keying in the AM/PM setting, or press keys other than the 10-Digit Keypad. And, if you wish to reset the switch-on and switch-off time only, the procedure is the same.
- The function that automatically turns the TV off for the ON TIMER, if no TV operation is performed after 2 hours, does not operate for the HOME SITTER.
- If the power is disconnected (such as in a power failure, etc.), and reapplied later, the HOME SITTER will be canceled. When disconnected only for a couple of minutes, the HOME SITTER is reactivated; however, it turns the TV on and off later than the set time by the amount of time of interruption.
- If the channel which has already been set as a "Guarded Channel" is selected, that channel is rejected and cannot be set for the HOME SITTER. (For details of the Guarded Channels, see page 12.)

5. 12HR SLEEP TIMER

The "12HR SLEEP TIMER" feature allows you to turn off your TV automatically at a preset time.

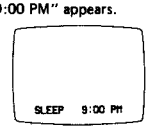
1) With "PAGE-2" (or "PAGE-1" or "PAGE-3") MENU displayed on the screen, press "5" of 10-Digit Keypad ❺ .
The display will show:



- If the built-in clock has not been set to operate properly, the 12HR SLEEP TIMER will not function. In this case, the following display will appear on the screen to show that the clock requires adjustment.

Press "1" (YES) of the 10-Digit Keypad to adjust the clock. (If "2" (NO) is pressed, the warning message "YOU CANNOT OPERATE SLEEP TIMER!!" is displayed.)
Set the built-in clock. (See "3) SET CLOCK" of "9. INITIAL SET-UP" on page 14 for details.) When the clock is adjusted, the message "THANK YOU!!" appears. Then, the following display appears to show that the SLEEP TIMER is now ready to be set.

2) Press the numbers on the 10-Digit Keypad to set the desired switch-off time. The 12HR SLEEP TIMER can be set for up to 11 hours 59 minutes from the current time.
For example, if it is now 7:00 PM, and you want the TV to switch off automatically at 9:00 PM, press "9", "0" and "0". (The "AM/PM" setting is done automatically.) The selected time of "9:00 PM" appears.



- When you select "1" for hour setting (for example, "1:05 AM"), remember to press "0" first, then press "1", "0" and "5".

3) To cancel the 12HR SLEEP TIMER setting, key in the current time (the current time setting of the TV's built-in clock).

Notes:

- If an invalid time is selected (for example: "5:87"), it will be rejected and the 12HR SLEEP TIMER must be reset properly.
- While the 12HR SLEEP TIMER is activated, if the POWER button is pressed to turn the power off and on again, the 12HR SLEEP TIMER will be canceled.
- While the 12HR SLEEP TIMER is activated, if the power is disconnected (such as in the case of power failure, etc.) and reapplied later, the TV is turned off. When disconnected only for a couple of minutes, the 12HR SLEEP TIMER is reactivated; however, it turns the TV off later than the set time by the amount of time of interruption.
- *The 12HR SLEEP TIMER may turn off the TV a little earlier than the preset time.*
- When the remaining time reaches 1 minute, the following message appears for a few seconds and "GOOD NIGHT" continues to blink. While the display remains on the screen, each pressing of the FUNCTION FORWARD button (▼) on the Remote Control will delay the turn-off time by 15 minutes.

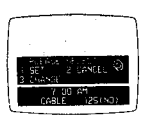
6. DUAL ON TIMER

The "DUAL ON TIMER" feature allows you to turn on your TV automatically at a preset time and on a specific channel. The DUAL ON TIMER is available for 2 different settings.

With "PAGE-2" (or "PAGE-1" or "PAGE-3") MENU displayed on the screen, press "6" of 10-Digit Keypad ❻ . The display will show:

- At this time, if the display of "POWER INTERRUPTED/ WOULD YOU SET CLOCK FIRST?" (which may appear during the 12HR SLEEP TIMER procedure) appears, it shows that the clock is not operating, and the DUAL ON TIMER will not function.
Press "1" (YES) to set the clock. (If "2" (NO) is pressed, the warning message "YOU CANNOT OPERATE ON TIMER!!" is displayed.)
Set the clock. See "3) SET CLOCK" of "9. INITIAL SET-UP" on page 14 for details regarding clock setting. After the clock has been set, the message "THANK YOU!!" appears to show that the clock has just been adjusted and the DUAL ON TIME is now ready to be set.

Two different settings are possible. Press "1" or "2" to select the setting position. The display will show:



- The second from the bottom line shows the preset time if already previously set.

1) SET
Press "1" to start the DUAL ON TIMER for turning the TV on automatically at the preset time shown. "<YES>" appears to show that the DUAL ON TIMER has started.

2) CANCEL
Press "2" to cancel the setting. "<NO>" appears to show that the DUAL ON TIMER has been canceled.

3) CHANGE
Press "3" to re-adjust the setting. Then, the following display appears.

Press the numbers on the 10-Digit Keypad to set the desired switch-on time. For example, if you want the TV to switch on automatically for CHANNEL 12 at 7:00 AM, press "7", "0" and "0". (When you select "1" for hour setting, remember to press "0" first, then press "1".) The selected time of "7:00" appears and immediately the display changes to:

Then, press "1" to select the "AM" setting. (Press "2" to select the "PM" setting.) Then, the following display appears. Press "1" and "2" for specifying "CHANNEL 12".

Now the following display appears on the screen to show the DUAL ON TIMER is set to "7:00 AM, CHANNEL 12" with the <YES> indicating the DUAL ON TIMER has started. Finally, press POWER button ❶ to turn the power off. POWER/ON TIMER indicator ❷ remains lit to show that the DUAL ON TIMER is in operation.

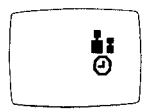
Notes:

- If an invalid time is selected (for example: "17:70"), it will be rejected and the DUAL ON TIMER must be reset properly.
- First select the broadcast mode (CHANNEL or CABLE) of the channel you wish to set for the DUAL ON TIMER with ANT/CABLE button ❾ on the Remote Control before entering the DUAL ON TIMER mode, since broadcast mode switching while in the DUAL ON TIMER will cancel the mode.
- After the DUAL ON TIMER has been properly set, it functions only once for each setting (up to 2 settings are possible) to turn on the TV's power. (It does not operate repeatedly every day at the same time as a serial time.)
- Once the DUAL ON TIMER turns the TV on automatically, if the TV is not operated in any way, after 2 hours the TV will turn off automatically for safety. A single adjustment, even audio level adjustment or channel selection, will cancel this switch-off function.
- While the DUAL ON TIMER is activated, if the power is disconnected (such as in the case of power failure, etc.) and reapplied later, the DUAL ON TIMER is canceled. When disconnected only for a couple of minutes, the DUAL ON TIMER is reactivated; however, it turns the TV on later than the set time by the amount of time of interruption.
- If the channel which has already been set as a "Guarded Channel" is selected, that channel is rejected and cannot be set for the DUAL ON TIMER. (For details of the Guarded Channels, refer to page 12.)
- When "2" is pressed, any presettings previously made after "1" was pressed will be canceled. To keep DUAL ON TIMER functioning, make sure to reset it by pressing "1" after pressing "2".

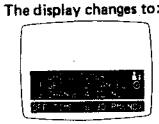
PAGE-3

7. CHILD TIMER

The "CHILD TIMER" feature enables the TV to be turned off automatically at a preset time every day, and once it has been set, it continues to operate unless it is canceled. Different from the 12HR SLEEP TIMER, the CHILD TIMER not only turns off the TV, but if the power is reapplied later, only a blue-blank screen appears instead of a normal screen. At this time, an ID number must be entered; when a correct ID number is entered, the blue-blank screen changes to a normal one. Also after an hour has passed, the function is canceled automatically.
With "PAGE-3 (or "PAGE-1" or "PAGE-2") MENU displayed on the screen, press "7" of 10-Digit Keypad ❼ . The display will show:



Then, press "0". The display changes to:



1) SET
Press "1" to place the CHILD TIMER in standby. The OFF TIME which has been previously set will be displayed. "YES" appears on the screen to show that the CHILD TIMER is in operation.

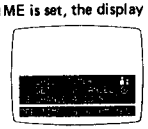
2) CANCEL
Press "2" to cancel the CHILD TIMER. "NO" appears to show that the CHILD TIMER has been canceled.

3) CHANGE
Press "3" to re-adjust the CHILD TIMER setting. Follow the on-screen displays to reset the OFF TIME, using the 10-Digit Keypad.

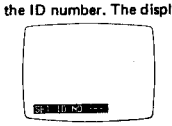
Set the OFF TIME.

Select "AM" or "PM".

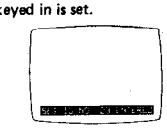
When the OFF TIME is set, the display will show:



4) SET ID NO.
Press "4" to set the ID number. The display will show:



Press any of 3 numbers you wish to be the ID number. When completed, "ENTERED" appears to show that the ID number you have just keyed in is set.



CHILD TIMER operation

1) When the POWER button is pressed after the CHILD TIMER has already turned the power off, the following display appears.

2) Key in the ID number using the 10-Digit Keypad. Then the blue-blank screen will change to a normal screen.
3) If the keyed-in ID number is incorrect, the display shows:

And the blue-blank screen will remain.

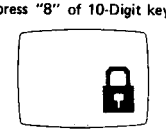
Notes:

- If you wish to change the ID number, follow the steps of "3) SET ID NO.".
- If the power is disconnected (such as in the case of power failure, etc.), and reapplied later, the ID number is reset to "000".
- If you forget the ID number which you have set, reset it.
- Since the ID number for the CHILD TIMER and CHANNEL GUARD is the same, changing one will also automatically change the other.

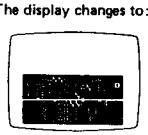
8. CHANNEL GUARD

The "CHANNEL GUARD" feature allows you to assign an "ID number" to specific channels of your choice, making them "Guarded Channels". This prevents these specific channels from being selected, unless the "ID number" is keyed in.

First select a channel you wish to set as a Guarded Channel. With "PAGE-3" (or "PAGE-1" or "PAGE-2") MENU displayed on the screen, press "8" of 10-Digit keypad ● . The display will show:



Then, press "0". The display changes to:

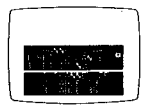


- Channel numbers displayed are the Guarded Channels, if already previously set.

1) SET

Press "1". The display changes to:

For example, if the current channel being received is "CHANNEL 25", and you wish to store this channel as Guarded Channel 1, then press "1". The display changes to show that CHANNEL 25 is now set as Guarded Channel 1.



2) CANCEL

Press "2" to cancel the Guarded Channel. The display will show:

With this display on the screen, press the number of the Guarded Channel you wish to cancel from the list. For example, if you wish to cancel CHANNEL 25 (in this case, Guarded Channel 1) from the list, press "1". Then the display changes to show that CHANNEL 25 (Guarded Channel 1) has been canceled.

3) SET ID NO.

Press "3" to set the ID number. The display will show:

Press any 3 digits you wish to be the ID number. When completed, "ENTERED" appears to show that the ID number you have just keyed in is set.

Viewing Guarded Channels

1) Select the Guarded Channel. (If the Guarded Channel you wish to view is CHANNEL 25, press "2" and "5".) Then, the following display appears:

2) Key in the ID number using the 10-Digit Keypad. The channel appears.
3) If the keyed-in ID number is incorrect, the display shows:

And the Guarded Channel you have selected cannot be seen.

Notes:

- If you wish to change the ID number, follow the steps of "3) SET ID NO.".
- If the power is disconnected (such as in the case of power failure, etc.), and reapplied later, the ID number is reset to "000".
- When performing the CHANNEL SCAN function, or selecting channels using CHANNEL (-/+) buttons ● , the Guarded Channels are skipped.
- In the following cases, the Guarded Channel can be seen without keying in the ID number:
  - =When you press RETURN button ● from a channel which has been selected immediately after viewing a Guarded Channel.
  - =When you press ANT/CABLE button ● from a channel of a different broadcast mode (CHANNEL or CABLE) which has been selected immediately after viewing a Guarded Channel.
  - =When you press CHANNEL (-/+) buttons ● on the Remote Control or LEVEL/CHANNEL (-/+) buttons ❶ on the front panel, while in the MANUAL PROGRAM mode of the INITIAL SET-UP (on MENU PAGE-3), if the selected channel which has already been ADDed happens to also be a Guarded Channel.
  - =When you press "4" (CHANNEL UP) or "5" (CHANNEL DOWN) of the 10-Digit Keypad while in the MANUAL PROGRAM mode of the INITIAL SET-UP, if the Guarded Channel happens to also be the next higher or lower channel following the one to which you are presently tuned.
  - =While in the AUTO PROGRAM mode of the INITIAL SET-UP, if the AUTO PROGRAM is interrupted immediately when a Guarded Channel appears.
  - =When the channel which has already been set for the DUAL ON TIMER or HOME SITTER is set as a Guarded Channel.
- If you forget the ID number which you have set, reset it.

9. INITIAL SET-UP

The INITIAL SET-UP feature allows you to perform basic settings for the TV status. This consists of Channel Memory (Auto/Manual), Set Clock, Set AV Status, Noise Mute, Message Style, Set Mute Level and Set Viewer Index.

Note: When performing Channel Memory (MANUAL PROGRAM), select an appropriate broadcast mode (either "CHANNEL" or "CABLE") before you select the INITIAL SET-UP mode.

- With PAGE-3 (or PAGE-1 or PAGE-2) MENU displayed on the screen, press "9" of 10-Digit Keypad ● . The "INITIAL SET-UP" consists of 3 pages. Press "9" of 10-Digit Keypad ● or the MENU button repeatedly to display the pages in the sequence below.
- Press numbers "1" through "8" on 10-Digit Keypad ● to select the corresponding function of the numbered items.

1) AUTO PROGRAM

This function allows memorizing the channels automatically to match the TV broadcasts and cable channels of your area. The memorized channels can be selected by CHANNEL (-/+) buttons ● on the Remote Control or LEVEL/CHANNEL (-/+) buttons ❶ on the front panel, or in the CHANNEL SCAN mode, while skipping channels where there are no broadcasts.

Press "1" of the 10-Digit Keypad. The following display will appear and the program set-up procedure begins automatically.

When tuned to a channel in which a TV program is broadcast, the following display appears and this channel is memorized.

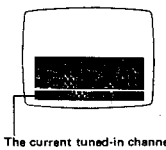
When the AUTO PROGRAM procedure (scanning and memorizing) is completed, it will be indicated by the following display.

Notes:

- If the broadcast signals are weak, the channel may not be memorized. In this case, perform the MANUAL PROGRAM procedure.
- The AUTO PROGRAM procedure takes approximately 4 minutes. If you wish to stop this procedure before completion, press any button on the Remote Control.

2) MANUAL PROGRAM

Similar to the AUTO PROGRAM function on the previous page, this is for memorizing channels, but it is performed manually. The resulting Manual Programming is also effective when performing up/down channel selection or CHANNEL SCAN.
Press "2". The display will show:



The current tuned-in channel

Simply follow the on-screen instructions.

Note: First select the broadcast mode before entering this MANUAL MEMORY mode.

1) Press "1" (ADD) to add this channel in memory. A bar "-" will appear between the broadcast mode (CHANNEL or CABLE) and the channel number to show that the channel has been memorized.
2) Press "2" (ERASE) to erase this channel from memory, if you do not wish to preset it in memory or if no TV station is broadcasting on it. The bar between the broadcast mode and channel number will disappear.
3) Press "4" (CHANNEL UP) or "5" (CHANNEL DOWN) to select the next higher or lower channel.
4) Press "3" (END) when you have stored all required channels in memory.
5) When you wish to store channels of the other broadcast mode, select the mode first, then repeat steps 1) through 4).
   - In step 3) above, if selecting channels is difficult, press the CHANNEL (–/+) buttons on the Remote Control.
   - Be sure to perform these operations using the Remote Control.

3) SET CLOCK

Your TV has a built-in clock. Set the clock as follows.
1) Press "3" of 10-Digit Keypad ●. The display will show:

2) Then, press the numbers on the 10-Digit Keypad to set the current time. For example, if the present time is 7:35 PM, press "0", "7", "3" and "5" (or press "7", "3" and "5"). Then, the display changes to:

3) Press "2" to select the "PM" setting. (Press "1" to select the "AM" setting.) Then, the display changes to the following to show the current time is set and the clock starts operating.

Notes:

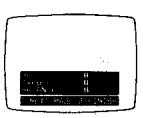
- If an invalid time is selected (for example: "17:70"), it will be rejected and the built-in clock must be reset properly.
- If you wish to set the clock precisely, in step 3) above, press "2" (or "1") at the same instant of a time signal.
- The built-in clock may loose time depending on the manner in which the TV is used or the frequency of the power source. If the time difference becomes great, re-adjust the clock.
- If the power is disconnected (such as in the case of a power failure, etc.), and reapplied later, the clock will stop operating. (The clock status can be checked on the screen. Press the DISPLAY button. If the clock has stopped, the message "CLOCK STOPPED" is displayed instead of the current time. See "DISPLAY Button" on page 18 for details.) When disconnected only for a couple of minutes, the clock is re-activated; however, it will be later than the actual time by the amount of time of interruption.

4) SET AV STATUS

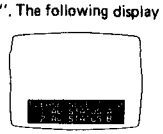
Your TV set incorporates the AV STATUS memory that can store 2 variations for preset picture/sound adjustments, allowing you to change the picture/sound tone/speaker balance to your preference, depending on each source.

1) Press "4" of 10-Digit Keypad ●. The display will show:

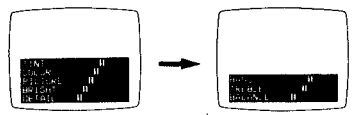
2) Make picture adjustments to your preference. Use the FUNCTION BACK/FORWARD buttons to select the item, and use the FUNCTION (–/+) buttons to adjust each item. If you also wish to make sound adjustments, press "1" to advance the adjustment mode display. The following display will appear. (Press "1" again to return to the picture adjustment display.)



3) Make sound adjustments to your preference. Use the FUNCTION BACK/FORWARD buttons to select the item, and use the FUNCTION (–/+) buttons to adjust each item. When finished, press "2". The following display will appear.



4) Press "1" to store the setting as the "AV STATUS A". (Press "2" to store it as the "AV STATUS B".) Then the picture and sound adjustment settings (items and their reference scales) appear for a few seconds each.



5) Repeat steps 1) through 4) for making another AV STATUS setting.

Note: When you wish to choose the preset AV STATUS, just press AV STATUS/RESET button ● to choose either set of AV STATUS adjustments. For details, see "AV STATUS/RESET button" below.

AV STATUS/RESET button

Use this button for choosing the preset AV STATUS or for resetting the picture/sound adjustment items.
Press AV STATUS/RESET button ● on the Remote Control. The following display appears.

- Another pressing of the AV STATUS/RESET button resets all previously adjusted items to their center positions.

1. AV STATUS A

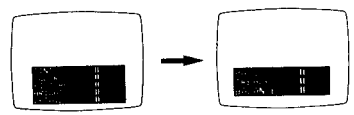
Press "1" of 10-Digit Keypad ● for selecting AV STATUS A. The picture and sound change as preset for "AV STATUS A". Then the picture and sound adjustment settings (items and their reference scales) appear for a few seconds each.

2. AV STATUS B

Press "2" for selecting AV STATUS B. The picture and sound change as preset for "AV STATUS B". Then the picture and sound adjustment settings (items and their reference scales) appear for a few seconds each.

3. RESET

Press "3" when you wish to reset all adjusted items (TINT, COLOR, PICTURE, BRIGHT, DETAIL, BASS, TREBLE and BALANCE) back to their center positions at the same time. The on-screen displays appear and change as follows:



Note: While in this mode, the setting of the AV STATUS cannot be canceled.

5) NOISE MUTE

The NOISE MUTE feature allows replacing the "snowy" screen of vacant non-broadcast channels with a blue-blank screen; and, at the same time, muting the noisy sound.
Press "5". The display will show:

At this time, either current setting (<ON> or <OFF>) is indicated at the right of "PLEASE SELECT".

Press "1" to select the Noise Mute mode for a blue-blank screen with no sound.

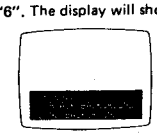
Press "2" to release the mode. Screen is normal (without blue-blank screen) and sound can be heard.

Note: The Noise Mute mode can be activated only when either no signal is being input or when a weak signal is being received.

- If you wish to view a TV program having a weak broadcast signal, release the Noise Mute mode to prevent it from being activated.
- If you use an antenna system, before adjusting it (extending, rotating, etc.), release the Noise Mute mode to prevent it from being activated when the signal condition changes.
- When playing back VCR recordings or the like, picture and sound muting conditions might continue to occur for a few seconds after engaging the Play mode. Release the Noise Mute mode when necessary.
- When the Noise Mute mode is engaged, it is also applied to the output signals, both from LINE OUT connectors and from AUDIO OUT (VARIABLE) connectors. Release the Noise Mute mode to prevent it from having effect when connecting external components to the TV.

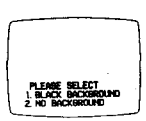
6) MESSAGE STYLE

This function is for switching the black background of the on-screen display on and off (except for channel numbers and clock time.) Press "6". The display will show:



Press "1" to select the on-screen display mode with a black background.

Press "2" to select the on-screen display mode without a black background.



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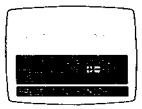
7) SET MUTE LEVEL

This feature allows presetting the sound level of the mute function. Press "7" of 10-Digit Keypad ● . The display will show:



Press the VOLUME (–/+) buttons to preset a mute level. Then press "1" to complete the setting.

Note:

- If the preset mute level is greater than the current volume level, pressing the MUTE button makes the volume level "00".

8) SET VIEWER INDEX

This function enables storing up to five frequently-viewed channels for five different categories (Network, Movies, Sports, News and Choice) under "Viewer Index", allowing immediate, direct access to the channel of your choice by using VIEWER INDEX button ● .

1) While in the channel select mode (either "CHANNEL" or "CABLE" mode), determine the category and channel you wish to preset under "Viewer Index".
2) Press "8" of 10-Digit Keypad ● . The display will show:

3) Press a number (1 – 5) on 10-Digit Keypad ● for a category in which you wish to preset a channel. Then, the following display will appear.
   (For example, press "1" to select "Network".)

4) Press a number (1 – 5) of 10-Digit Keypad ● for a position in which you wish to preset a channel. Then, the following display will appear.
   (For example, press "3" to select position 3.)

5) Enter a channel you wish to preset (either in the CHANNEL or in the CABLE modes).
   (For example, press "0" and "8" to preset "CHANNEL 08".)

6) Press either FUNCTION FORWARD/BACK (▼/▲) button for selecting each of the call letters to be stored. Available characters include the alphanumeric characters (26 English-language letters and 10 numerals), plus various punctuation marks (period, comma, etc.). Then, move the cursor to the next letter position by pressing either FUNCTION (–/+) button on the Remote Control. When the selection of as many as 4 call letters is finished, press "1".
   (For example, if you choose the letters "JVC", keep the FUNCTION FORWARD (▼) or BACK (▲) button pressed until the letter "J" appears. Then, press the FUNCTION (+) button to move the cursor one letter position to the right. Press the FUNCTION FORWARD or BACK button to select the letter "V", then move the cursor to the right again with FUNCTION (+). In the same way, select "C", then press "1" to confirm.) The "Viewer Index" is displayed for a few seconds.

7) Press "1" to go to the next position within the category. Repeat steps 3) through 6). Press "2" to go to the next category.

VIEWER INDEX Button

- Press VIEWER INDEX button ● anytime you wish to call up a category list of those channels which have been preset with the SET VIEWER INDEX menu for convenient direct channel selection.

1) Press VIEWER INDEX button ● to call up the following display.

2) While the display is on the screen, press the corresponding number of 10-Digit Keypad ● to select a category.
   (For example, press "1" to select "NETWORK".)
   The following display appears.

3) While the list is on the screen, press the corresponding number of 10-Digit Keypad ● for the channel of your choice.
   (For example, press "3" to select "CHANNEL–08 <JVC>".)
4) "CHANNEL 08 <JVC>" is tuned to.

Note:

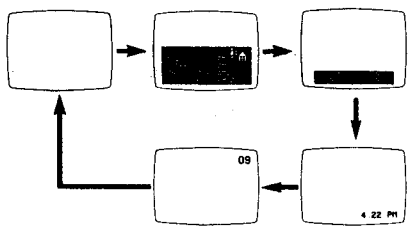
- As shown above, previously keyed in station call letters appear with their channel numbers. If different sets of call letters are assigned the same channel number in different categories (or in the same category), the call letters keyed in the higher numbered category (or higher numbered position) will appear on-screen when that channel is selected.

MORE USEFUL FUNCTIONS

DISPLAY Button

Press DISPLAY button ● on the Remote Control. The channel number of the program you are now viewing, the current settings of time for SLEEP TIMER/DUAL ON TIMER/HOME SITTER (with symbol)/CHILD TIMER (with symbol), VNR/NOTCH settings, the current time and the channel number with its call letters are displayed in the order as shown below by each pressing of the DISPLAY button. The current time remains displayed on the screen until the DISPLAY button is pressed again.

Note: If the SLEEP TIMER and/or ON TIMER is cancelled, their settings will not be displayed.



VNR Button

The "VNR", or "Video Noise Reduction" feature eliminates on-screen picture noise, making pictures appear clearer. Press VNR button ● on the Remote Control. The following display will appear on the screen. Press again to turn the VNR mode off. The display changes to "OFF" and the picture is restored to normal.

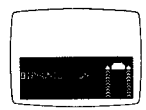
- Normally, set this function to "OFF".

NOTCH Button

The "Notch" feature substantially reduces horizontal noise, or "dot interference" appearing on the screen especially between two prominent colors bordering each other. Press NOTCH button ● on the Remote Control. The following display will appear on the screen. Press again to turn the Notch mode off. The display changes to "OFF" and the picture is restored to normal.

BIPHONIC Button

The "Biphonic" system is a unique sound enhancing system. By varying the phase and frequency characteristics of the sound, it makes the sound seem "wider", even with monaural sources. Press BIPHONIC button ● on the Remote Control. The following display will appear on the screen. Press again to turn the Biphonic mode off. The display changes to "OFF" and the sound is restored to normal.



Note: This system has no effect on externally connected monaural sources, such as a VCR, etc.

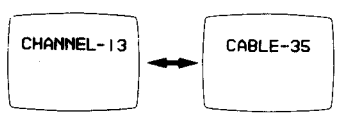
MUTE Button

Press MUTE button ● on the Remote Control.
The sound of the TV program being viewed will be reduced to zero and "VOLUME 0" will appear on the screen.
Press again to restore the sound. Also, a mute level setting is possible. See "7) SET MUTE LEVEL" of "9. INITIAL SET-UP" on page 16.

Note: Changing the audio volume or channel number also restores the sound.

RETURN Button

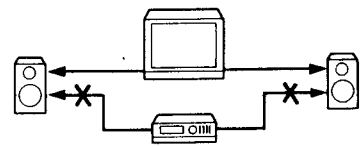
Press RETURN button ● on the Remote Control.
The previously viewed channel will appear on the screen.
Press RETURN again to switch back to the original channel.
Repeatedly pressing RETURN switches between these two channels.



Note: In the VIDEO mode, if the RETURN button is pressed, the mode is switched to the TV mode.

CONNECTING TO EXTERNAL EQUIPMENT

- **Prior to making any connections to your TV set, be sure to turn the POWER off.**
- **For a more detailed understanding of each connection, it is recommended that you read the instruction manual for each connected component.**
- **If you use video or audio equipment placed too near the Monitor/Receiver, picture and/or sound may become distorted due to interference between these components. In such a case, separate each piece of equipment at a sufficient distance.**
- **The following shows examples for connecting external equipment.**
- **Do not connect another audio source to the same speaker to which the TV set is connected, otherwise damage may result to the amplifier of the TV set or to that of the other audio source.**

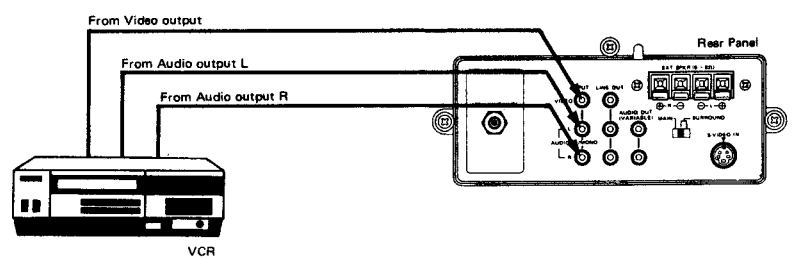


1 VIDEO/AUDIO INPUT connectors

- To view a connected video source, press TV/VIDEO button ● on the Remote Control to engage the VIDEO mode.

Notes:

- If the connected video equipment outputs monaural audio, connect to the AUDIO L/MONO (left channel) connector. Sound will be output from both right and left speakers.
- When the S-VIDEO IN connector is used, this VIDEO INPUT connector function becomes inoperable.



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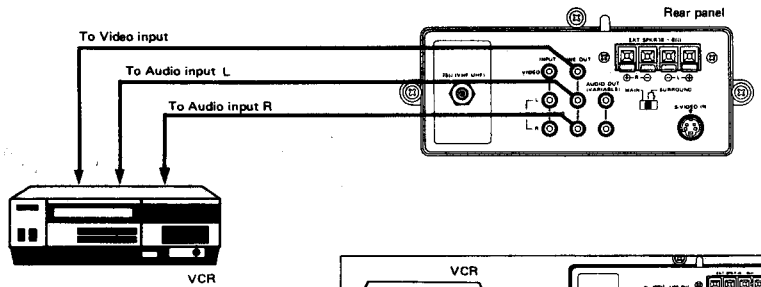
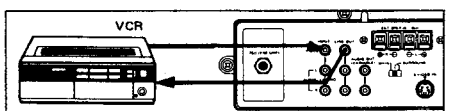
2 LINE OUT connectors

- The video and audio signals available at these connectors are the same as the source presently being monitored on the TV.
  This is convenient for VCR connection.

Note: Video signals that are input to the S-VIDEO IN connector cannot be output from VIDEO connector of LINE OUT connectors.

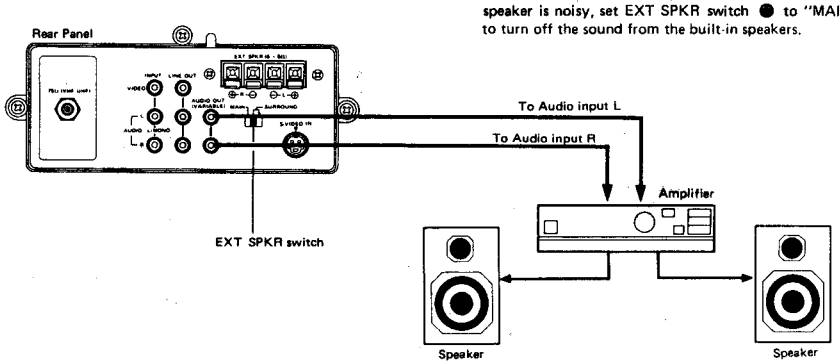




Note: With a VCR connected as shown, when the VCR is operated for anything except playback of video programs, noise bars may appear on the screen. This is normal.

3 AUDIO OUT (VARIABLE) connectors

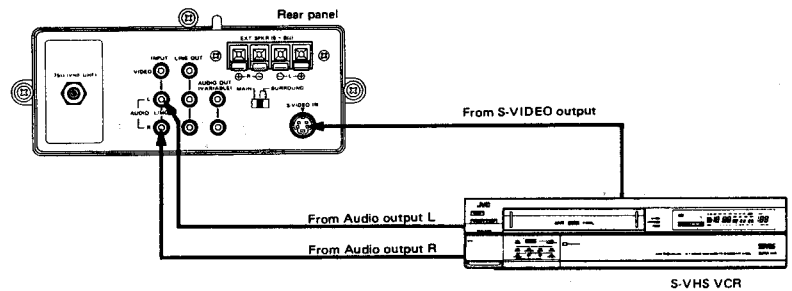
- The audio signals available at these connectors are the same as the audio source of the program being monitored on the TV screen.
- Connect a stereo amplifier to these connectors to listen to the sound through external speakers connected to the amp. The audio output level can be adjusted via VOLUME (-/+) buttons ❸ on either the Remote Control or front panel.
- If the sound which is output from the TV's built-in speaker is noisy, set EXT SPKR switch ● to "MAIN" to turn off the sound from the built-in speakers.



4 S-VIDEO IN connector

- S-VIDEO IN connector is for the separated Y (luminance) and C (chrominance) video signals conforming to the NTSC system, ideal for connection of an S-VHS (Super VHS) VCR.
- Connect the audio output cable to AUDIO INPUT connectors.
- Press TV/VIDEO button ● on the Remote Control to engage the VIDEO mode to view pictures from the S-VHS VCR.

Note: When equipment is connected to this connector, the VIDEO INPUT connector function becomes inoperable.



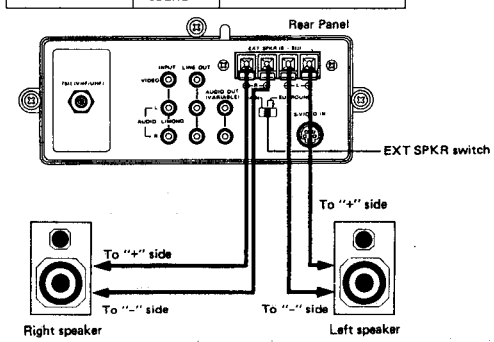
5 Using external speakers

- Connect speaker cables while making sure that the wiring of speaker's polarities is correct.
- Set EXT SPKR switch ● to "MAIN". The sound from the TV's built-in speakes is turned off, and the sound will be heard only from the speakers which are connected to EXT SPKR terminals ⓬ .

< Setting the EXT SPKR switch >

The output sound differs depending on the switch setting.

Switch setting	Sound output	
	Built-in speakers	Speakers connected to the EXT SPKR terminals
MAIN	No sound	Normal sound
SURROUND 1	No sound	Surround effect sound
SURROUND 2	Normal sound	Surround effect sound



Notes:

- Use speakers of 6-to 8-ohm impedance.
- If the "+" and "–" terminals are short-circuited, it may cause damage to the TV set.
- It is recommended to use magnetically shielded speakers. If you use speakers other than these, place them at a sufficient distance from the TV set, otherwise the magnetic field generated from such speakers cause unstable picture color.
- Do not connect another audio source to the same speaker to which the TV set is connected, otherwise damage may result to the amplifier of the TV set or to that of the other audio source.

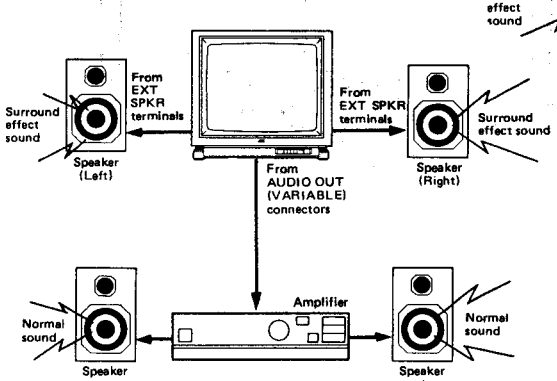
6 Listening to surrond sound

"Surround sound" is a sound reproduction process resulting in a three-dimensional aural experience that is a combination of "surround effect sound" and "normal sound", delivered from both of left and right channels at the same time.

- The surround sound effect is possible only when the sound source being listened to is a stereo source. (The surround sound effect is not possible with a monaural sound source.)
- Set the marker of the scale of the BALANCE adjustment mode to its center position using the FUNCTION buttons and/or the AV STATUS/RESET button. See page 15.

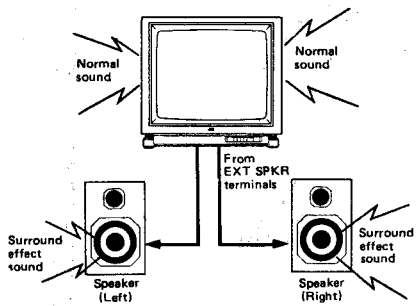
(A) When using an external stereo component system

(1) Connect each component as illustrated.
(2) Set EXT SPKR switch ● to "SURROUND 1".



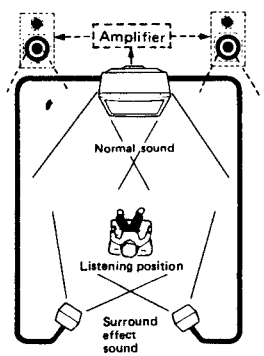
(B) When connecting speakers to the EXT SPKR terminals

(1) Connect speakers to the EXT SPKR terminals.
(2) Set EXT SPKR switch ● to "SURROUND 1".



< Speaker positioning >

As shown below, position the speakers so that the normal sound can be heard in front and the surround effect sonnd can be heard in back of the listening position.



BEFORE YOU CALL FOR SERVICE

Be sure to review all the instructions written in this booklet. Then try to check according to the following chart.

PROBLEMS \ TRY THIS	Is the power cord plugged in?	Check the AC outlet.	Check antenna (connections and wires)	Try another channel.	If OK., station broadcast problem.	Move antenna in different direction.	Is it a black-and-white program?	Adjust COLOR control.	Adjust TINT control.	Replace batteries of remote control unit.	THEN, CALL FOR SERVICE PERSONNEL.
Picture rolls vertically.			NO		NO		NO				Be sure to disconnect the power plug, and never try to service the TV yourself.
Noise bars on screen.											
Picture blurred.											
Lines or streaks in picture.											
Weak picture.											
Wrong colors.								NO	NO		Important: An outdoor antenna system of good quality and condition is recommended to eliminate many service problems.
No color.			NO		NO		NO	NO			
Sound OK but picture poor.			NO		NO		NO				
Picture OK but sound poor.											
Neither picture nor sound.	NO										
Sound OK but no picture.					NO						
Weak or inoperable remote control.	First, press the POWER button on the front panel to switch the TV on and off, then check whether the Remote Control is working or not.									NO	NO

SPECIFICATIONS

Type	: Color monitor/receiver
Reception system	: NTSC system, BTSC system (Multichannel sound)
Channel coverage	: VHF 2 – 13, UHF 14 – 69; Sub-Mid, Mid, Super, Hyper and Ultra bands (180-channel frequency synthesizer system)
Power requirement	: AC 120 V, 60 Hz
Power consumption	: Max. 160 W, Avg. 110 W
Screen size	: 31" diagonally measured, Full Square
Audio output	: 3 W + 3 W
Speakers	: 3-3/16" x 4-3/4" ellipse x 2
Antenna input terminal	: 75-ohm (VHF/UHF) terminal (F-type connector)
External input terminals	: Video/1 Vp-p, 75 ohms Audio/500 mV rms (–4 dBs), high impedance
Line output terminals	: Video/1 Vp-p, 75 ohms Audio/500 mV rms (–4 dBs), low impedance (400 Hz when modulated 100 %)
S-VIDEO IN terminal	: Y/1 Vp-p positive, 75 ohms (negative sync provided) C/0.286 Vp-p (burst signal), 75 ohms
Variable audio output terminals	: More than 0 – 1550 mV rms (+6 dBs), low impedance (400 Hz when modulated 100 %)
External speaker terminals	: Impedance 6 – 8 ohms
External dimensions (W x H x D)	: 29-5/8" x 26" x 21-7/8"
Weight	: 121.2 lbs
Accessories	: Remote control unit (RM-C426) AA-size dry cell battery x 2

Design and specifications subject to change without notice.

(No.3037G) 15

SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the power supply cord and remove the seventeen screws marked Ⓐ shown in Fig. A.

* When reinstalling the rear cover, carefully push it inward after inserting the main board into the rear cover groove.

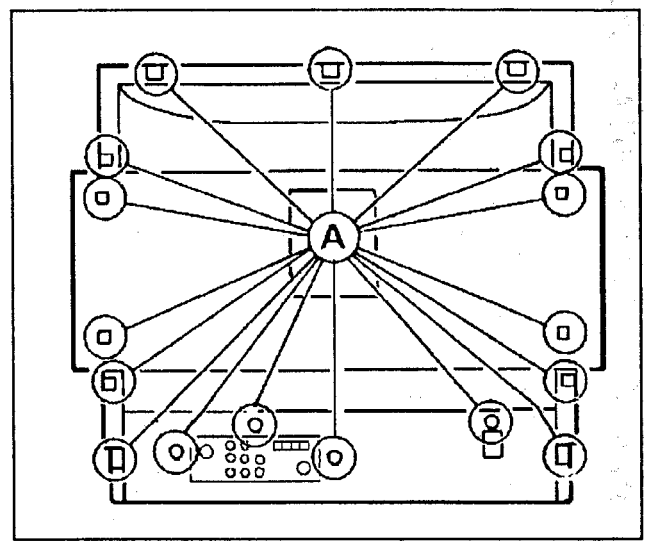


Fig. A

REMOVING THE CHASSIS

1. As shown in Fig B, slide and pull out the chassis in the direction of arrow. (If necessary, take off the wire clamp and connectors..,etc.)

* When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT socket board and the MAIN board.

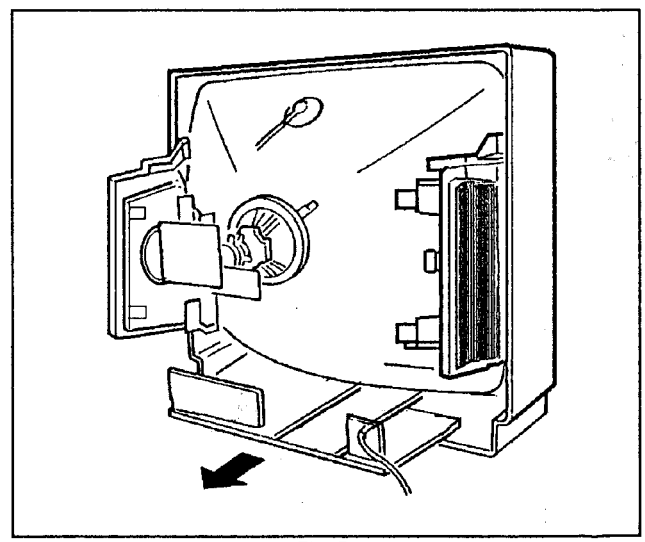


Fig. B

SETTING UP THE CHASSIS FOR CHECK/ REPAIR

As shown in Fig C, set the removed chassis upright.
When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT socket board and the chassis.

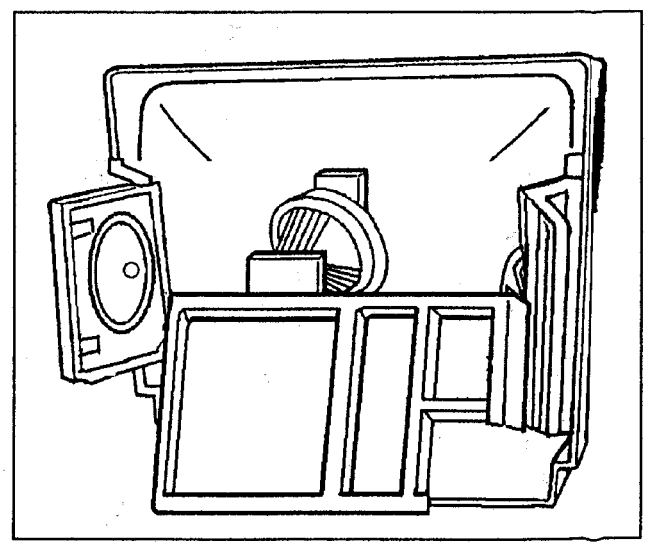


Fig. C

REMOVING THE CRT.

- Relacement of the CRT should be performed by two or more persons.
- After removed the rear cover, chassis, sp case ass'y, line filter & audio p.c.board etc..,

1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth. (shown in Fig. E)
2. While keeping the face surface of CRT down, mount the TV set on the CRT change table balanced will.
3. Remove four nuts marked by arrows shown in Fig. D.with a box type screw driver as shown in Fig.D.

- Since the cabinet will drop when the nuts have been removed, be sure to support the cabinet with hands.

4. After four the nuts have been removed, put the cabinet slowly on cloth (At this time, be careful so as not to damage the front surface of the cabinet) shown in Fig.F.

- The CRT should be assembled according to the opposite sequence of its dismounting steps.

* The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

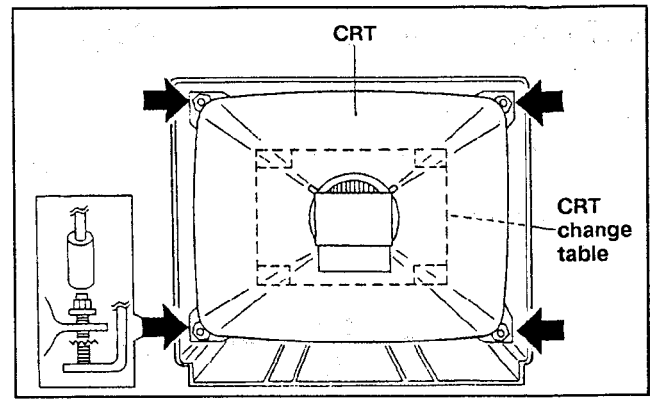


Fig.D

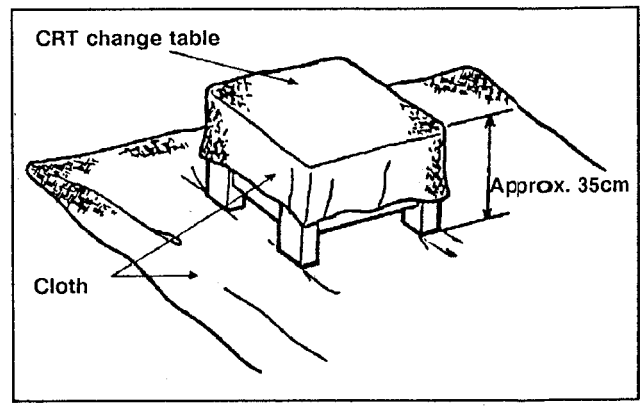


Fig.E

WIRE CLAMPING AND CABLE TIES

Be sure to clamp the wire.
Never remove the cable tie used for tying the wires together.
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

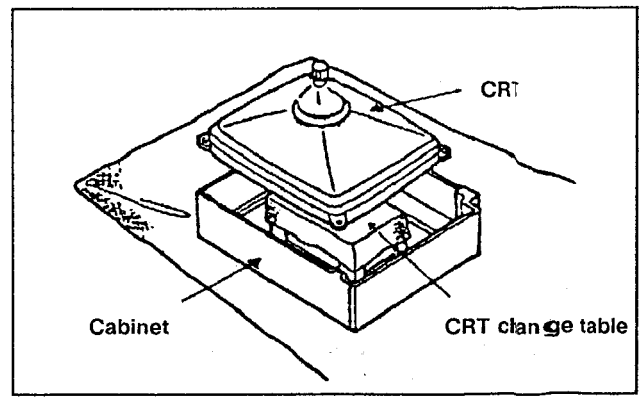


Fig.F

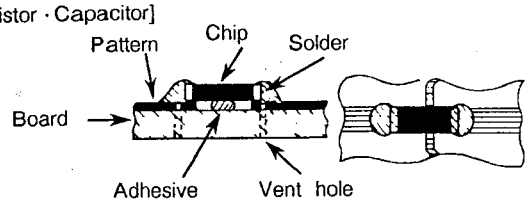
REPLACEMENT OF CHIP COMPONENTS

- **CHIPS ARE NOT USED ON CERTAIN MODELS. REFER TO THE DESCRIPTIONS ON THIS PAGE ONLY WHEN WORKING ON MODELS ON WHICH CHIPS ARE EMPLOYED.**

Replacement of the chip on printed circuit board can be performed easily as follows.

1 When mounted

[Resistor · Capacitor]

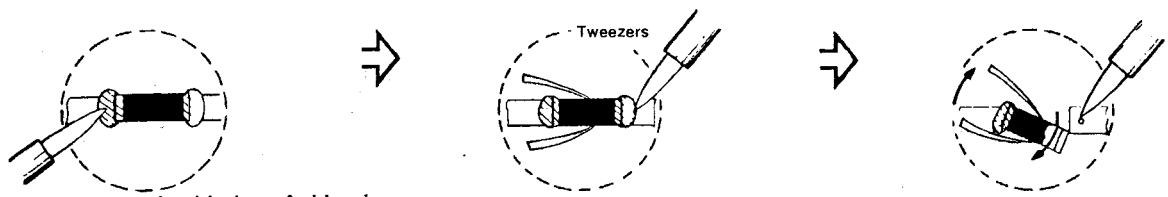


2 Removal of the chip

(1) Remove either of the soldered contacts.

(2) Hold the chip with tweezers and remove the other contact.

(3) Work the chip free from the adhesive with tweezers.

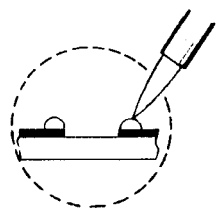


3 Preheating and soldering of chip pieces

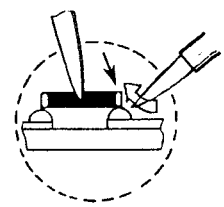
Be sure to preheat chip pieces (except the transistor) especially the capacitor before soldering with hot air, about 150°C (hair dryer or such can be used) for about 2 minutes. Then, immediately solder with an iron of about 30W.

4 Replacing the chip pieces

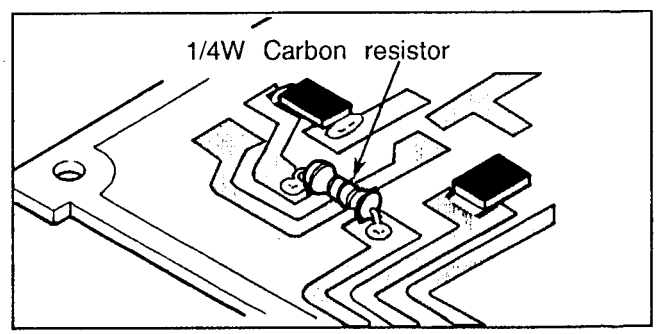
(1) Apply the solder to the board first.



(2) Hold the chip with tweezers and solder it in place, hold the iron at a 45° angle when soldering.

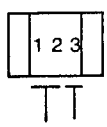


- Discrete parts can be substitutionally mounted as shown in the figure on the right.
  Mounting is also possible by passing the wires from the board front side (parts side) through the chip soldering hole (vent hole of registration part).
  Substitute parts are as follows.
  - Chip Metal Glaze Resistor
    →Carbon Resistor 1/4W ±5%
  - Chip Ceramic Capacitor
    →Ceramic Capacitor 50V ±5%



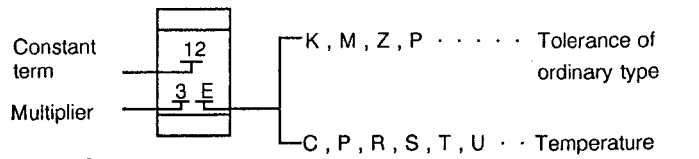
- Decoding of chip parts constant terms

<Chip Metal Glaze Resistor>



Constant term: 12
Multiplier: 3
12×10^3 = 12000Ω = 12kΩ

<Chip Ceramic Capacitor>


Constant term
12
Multiplier
3
E
K , M , Z , P · · · · · Tolerance of ordinary type
C , P , R , S , T , U · · Temperature coefficient of temperature compensation type

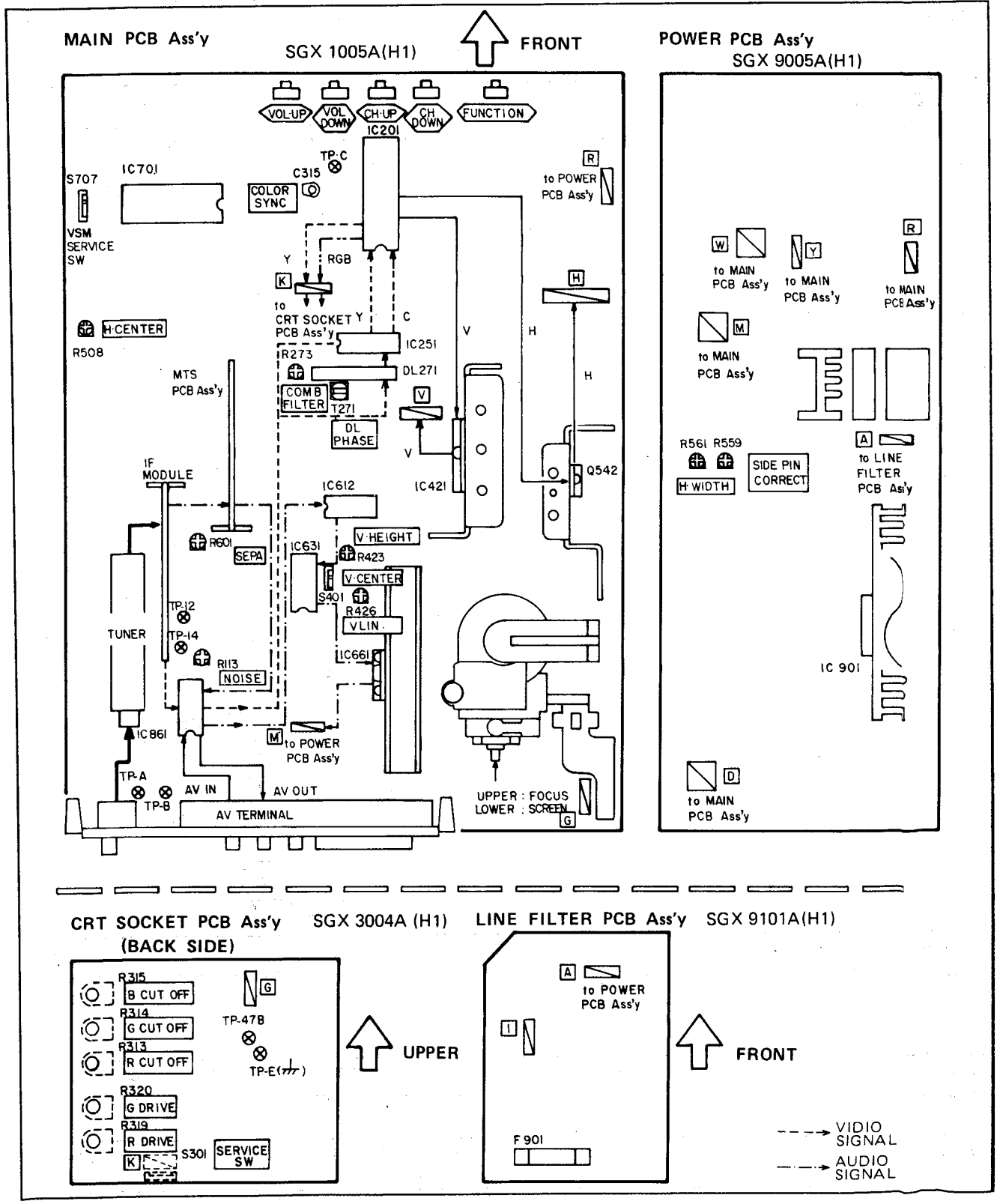
12×10^3 = 12000pF = 0.012μF

SERVICE ADJUSTMENTS

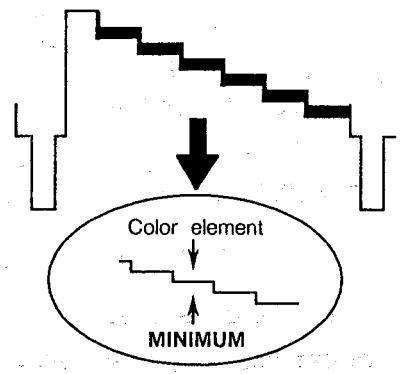
TOOLS AND FIXTURES FOR ADJUSTMENT

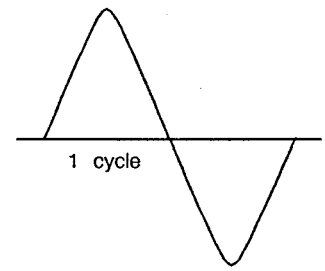
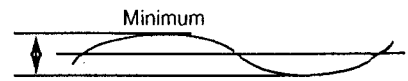
- DC VOLTMETER
- PATTERN GENERATOR
- TV MULTICHANNEL SOUND GENERATOR

ADJUSTMENT LOCATION



ADJUSTMENT

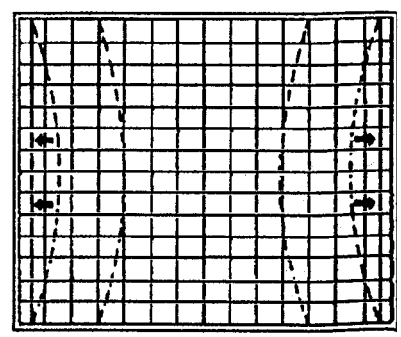
Item	Measuring instrument	Test point	Adjustment part	Description
POWER CIRCUIT				
B1 POWER SUPPLY	DC VOLTEM-ETER	TP-91 TP-E (⊥)		1. Confirm that the voltage between TP-91 and TP-E (⊥) is DC 120.3 V.
MAIN CIRCUIT				
NOISE (RF. AGC)			NOISE VR	1. Adjust the NOISE VR so that the noise appears in the image. 2. Next turn the NOISE VR in a direction that the noise disappears from the image and stop at the point where the noise has disappeared from the image. 3. Turn to another channel and confirm that there are no abnormal ities.
COLOR SYNCHRO-NIZATION	PATTERN GENERATOR	IC201 Pin ㉟ } Pin ㊶ Pin ㉝	COLOR SYNCHRO-NIZATION	1. Receive the color bar signal image. 2. Connect pins ㉟ and ㉝ of IC201 to pin ㊶ (+9V). 3. Adjust the COLOR SYNCHRONIZATION to obtain color synchronization. 4. Remove the connections and check that the color synchronization does not deteriorate on any of the channels.
COMB FILTER	PATTERN GENERATOR	IC251 PIN ⑫	DL P TRANSF. COMB FILTER VR	1. Receive the color bar signal image. 2. Connect the oscilloscope to pin ⑫ of IC251. Magnify the chrome signal portions of the color bar waveform so that the 3.58 MHz elements become easy to observe. 3. Adjust DLP Transf. (T271), and minimize the 3.58MHz elements. 4. Regulate the COMB FILTER adjustment VR (R273) to further minimize the 3.58MHz elements. 5. Repeat steps 3 and 4 to fully minimize the 3.58MHz elements. 
VERTICAL HEIGHT	PATTERN GENERATOR		VERTICAL HEIGHT VR	1. Receive a picture that enables vertical symmetry to be checked. 2. Using the VERTICAL HEIGHT VR, reduce the picture vertically. 3. Upon adjusting with the VERTICAL HEIGHT VR, return the picture to normal vertically.
VERTICAL CENTER			VERTICAL CENTER SWITCH	1. Switching the VERTICAL CENTER SWITCH back and forth will allow you to move the screen position either upward or downward.
V. LIN.			V.LINEARITY VR	1. Adjust the V.LINEARITY VR and obtain vertical symmetry of picture.

Item	Measuring instrument	Test point	Adjustment part	Description
H.CENTER			H CENTER VR	1. The screen can be scrolled leftward by adjusting the H.CENTR VR
FOCUS			FOCUS VR	1. Adjust the FOCUS VR to obtain clear pictures. 2. Check that pictures have been adjusted to optimum appearance in both central and peripheral areas of the screen.
SEPARATION	TV MULTI-CHANNEL SOUND GENERATOR	AUDIO OUTPUT L, R	SEPARATION VR	1. Set the TV multichannel sound signal generator for generating stereo signal and output signal of about 3KHz from the left channel. 2. Connect an oscilloscope to the " L" output and obtain a clear view of 1- cycle portion of 3KHz waveforms. 3. Change connection of the oscilloscope to the "R" output and expand the voltage axis. 4. Adjust the SEPARATION VR and minimize the 3KHz crosstalk portion.  1 cycle **L-Channel signal waveform**  Minimum **R-Channel crosstalk portion**

MULTICHANNEL SOUND CIRCUIT

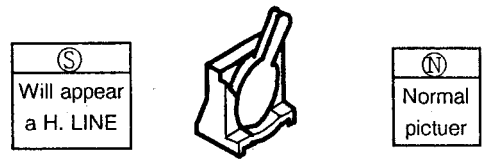
Do not touch the VRs inside the MULTICHANNEL SOUND CIRCUIT Board.

POWER CIRCUIT

H.WIDTH & SIDE PIN CORRECTION	PATTERN GENERATOR		H.WIDTH VR SIDE PIN CORRECTION VR	1. Set the H.WIDTH VR to mechanical center. 2. Display the picture to the crosshatch pattan. 3. Adjust the SIDE PIN CORRECTION VR so that the V. line of the crosshatch patten becomes a straight line. 4. Then adjuist the H.WIDTH VR and correct the picture - missing condition to the normal status. * This adjustment is conducted when characters or others to be displayed at screen corners are not appearing on the screen. 

Item	Measuring instrument	Test point	Adjustment part	Description

CRT SOCKET CIRCUIT

HORIZON-TAL LINE			SERVICE SWITCH	1. Turning the SERVICE SWITCH from the N side to the S side will bring the horizontal line display to the screen. 

HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing of the high voltage hold down circuit shown in Fig. 1.
This circuit shall be checked to operate correctly.

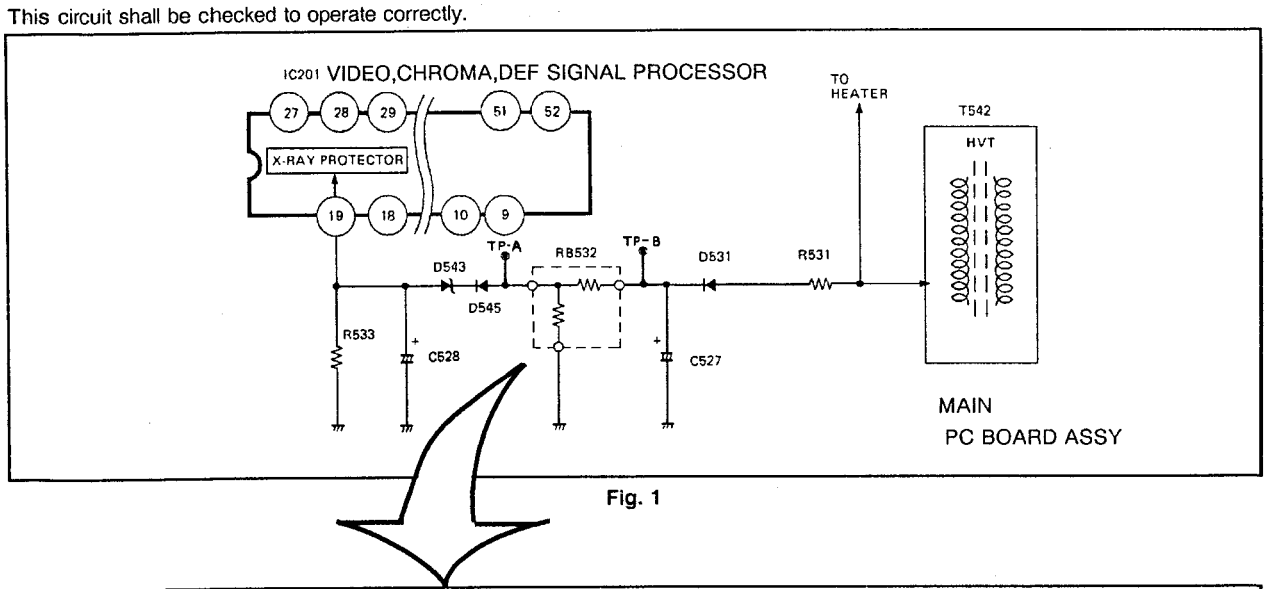


Fig. 1

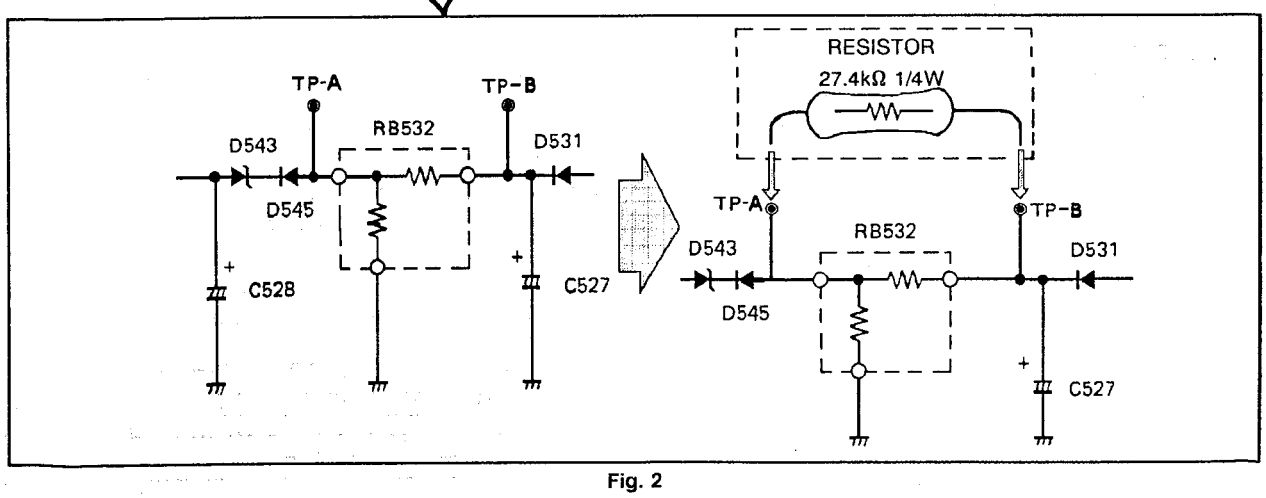


Fig. 2

2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT.

(1) Make sure that the power SW is at OFF.
(2) As shown in Fig. 2, set the resister 27.4kΩ 1/4W (between TP-A and TP-B).
(3) Turn the power SW ON.
(4) Make sure that the screen picture disappears.
(5) Turn the power SW OFF.
(6) Remove the resistor 27.4kΩ 1/4W from RB532 (between TP-A and TP-B).

PURITY, CONVERGENCE AND WHITE BALANCE

* The locations of SERVICE SWITCH, SCREEN VR, CUT-OFF VR and DRIVE VR are described in the ALIGNMENT LOCATION of SERVICE ADJUSTMENT or the SCHEMATIC DIAGRAM.

PICTURE TUBE

The picture tube is a precision in-line gun type. For this picture tube, dynamic convergence is carried out by a precision deflection yoke which eliminated the use of convergence yoke and convergence circuit. The adjustment of picture tube is therefore made easier as only the adjustment of static convergence by using a magnetic is enough. The deflection yoke and purity/convergency magnets assembly has been set at the factory and requires no field adjustments. However, should the assembly be accidentally jarred or tampered with, some or all adjustments may by necessary.

COLOR PURITY & VERTICAL CENTER

Loosen yoke retaining screw (Fig. B-1) . With a sharp knife cut between the picture tube and the wedge. Remove wedges completely and clean off dried adhesive from the picture tube. PAINT is used to lock the tabs of the purity/convergence magnet assembly in place (Fig. B-1) . The paint must be removed with the end of a screwdriver before any adjustments are attempted.

(As to models equipped with a magnet locking ring, beforehand loosen it.)

1. Select no signal UHF channel. (or Display a monochrome pattern)
2. Let the purity tabs come in line horizontally as is shown in Fig. B-2. A long tab should be in the same direction as the other short tab.
3. Move the yoke slowly backward.
4. Turn the GREEN CUT-OFF VR to maximum and the RED and BLUE CUT-OFF VRs to minimum. Then adjust the SCREEN VR so that the green band can be seen best. (Fig. B-3)
5. Rotate the two tabs in the opposite directions and with them kept at an angle, together in either direction so that the green band is centered on the picture tube.
6. Check the vertical center position by displaying a horizontal line. (Select the CUT-OFF SERVICE SWITCH from N to S and a HORIZONTAL LINE will appear.) Unless correct, bring it to the nearest center by rotating the two tabs, kept at an angle, together in either direction. (Fig. B-4)
7. Repeat steps 5 and 6 alternately until the green band and the vertical center come to the center.
8. Move the yoke slowly towards the bell of the tube so that the whole surface of the picture tube is filled with a green pure raster.
9. Turning RED or BLUE CUT-OFF VR to maximum and GREEN CUT-OFF VR to minimum, make sure of a red or blue pure raster.
10. Secure yoke retaining screw (do not install wedges at this time) .

(As to models equipped with a magnet locking ring, secure it and keep six magnets from moving even if it is touched slightly.)

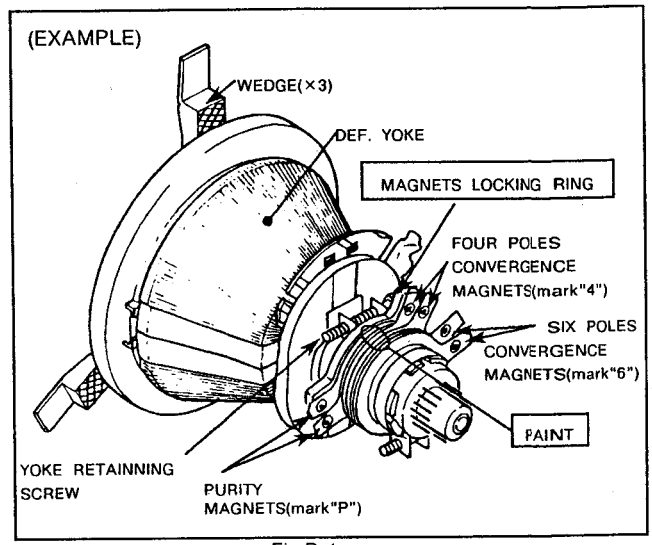


Fig.B-1

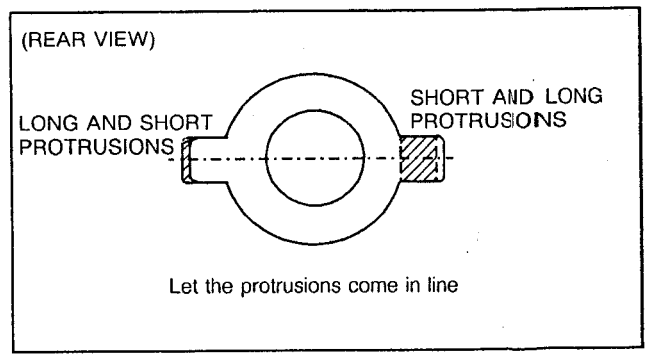


Fig.B-2

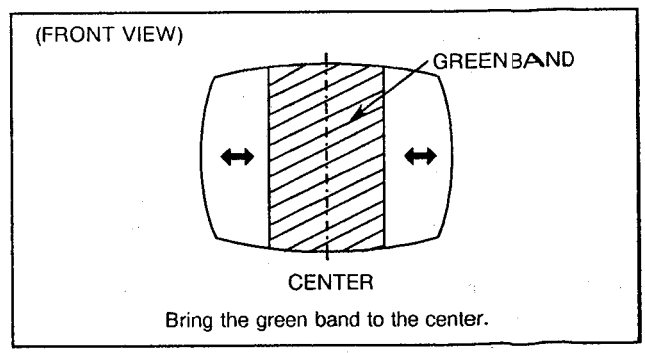


Fig.B-3

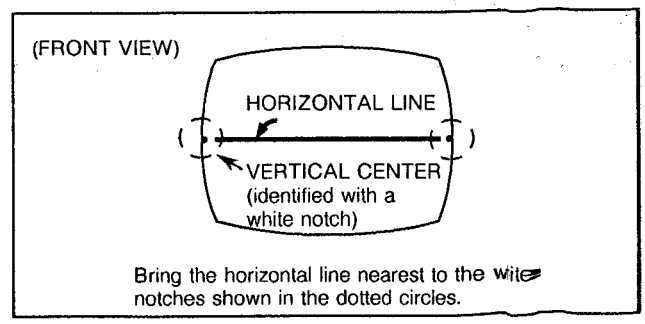

(FRONT VIEW)
HORIZONTAL LINE
VERTICAL CENTER
(identified with a white notch)
Bring the horizontal line nearest to the white notches shown in the dotted circles.

Fig.B-4

STATIC CONVERGENCE & DYNAMIC CONVERGENCE

1. Connect a crosshatch generator to the input terminals and adjust BRIGHTNESS and CONTRAST control for a distinct pattern.
2. Adjust the convergence around the edges of the picture tube by tilting the yoke, up-down and left-right, and temporarily install one wedge at the top of the yoke. (Fig. B-7, 8, 9)
3. Rotate the front pair of tabs (four pole convergence magnet) as a unit to minimize the separation of the red and blue lines around the center of the screen. To adjust the convergence of red and blue, vary the angle between the tabs (Fig. B-5)
4. Rotate the rear pair of tabs (six pole convergence magnets) as a unit to minimize the separation of the magenta (R/B) and green lines. (Fig. B-6)
5. Adjust the spacing of the rear tabs to converge the magenta and green lines.
6. Apply paint to fix six magnets.
   (As to models equipped with a magnet locking ring, tighten it.)
7. Remove the wedge installed temporarily on the yoke.
8. Tilting the angle of the yoke up, down and sideways, and adjust the yoke so as to obtain the circumference convergence. (Fig. B-8, 9)
9. Insert wedges to the position as shown in Fig. B-10 to obtain the best circumference convergence.
10. Wedge has a backing of double sided adhesive tape. Therefor, tear off one side of adhesive tape, and fix the wedges.
11. White balance adjustment (Black & White tracking) can now be performed.

WHITE BALANCE ADJUSTMENT

(Black and White Tracking)

1. Display a monochrome pattern.
2. Set the RED and GREEN DRIVE VRs for their mechanical center.
3. Turn the RED, GREEN and BLUE CUT-OFF VRs and the SCREEN VR fully counterclockwise.
4. Display a horizontal line. (Select the CUT-OFF SERVICE SWITCH from N to S and a HORIZONTAL LINE will appear.)
5. Turn SCREEN VR slowly clockwise until a very faint horizontal line appears.
6. Turn the CUT-OFF VR of the color which has appeared first, clockwise by about 10°and then adjust the SCREEN VR again so that the color may shine faintly.
7. Turn the other color CUT-OFF VRs slowly clockwise until a reasonable white line appears.
8. Return the monochrome pattern. (When returning a monochrome pattern select the CUT-OFF SERVICE SWITCH from S to N and a monochrome pattern will appear.)
9. Adjust the RED and GREEN DRIVE VRs for best white highlights.

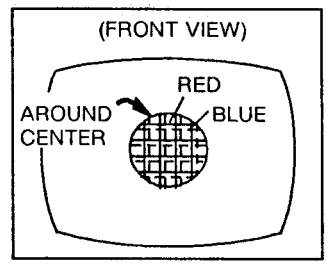


Fig.B-5

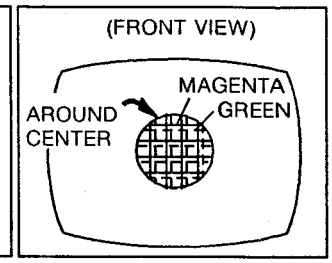


Fig.B-6

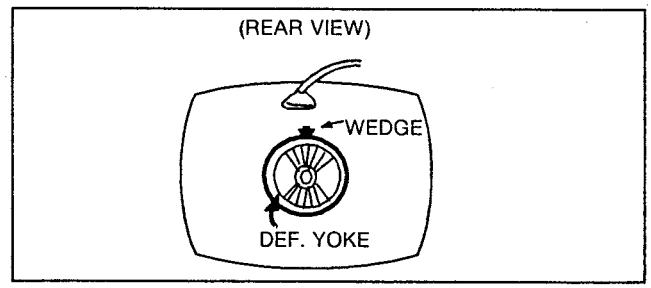


Fig.B-7

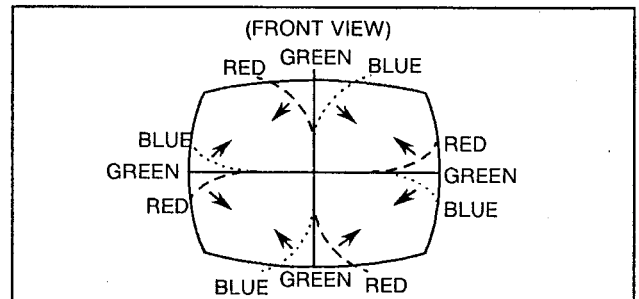


Fig.B-8

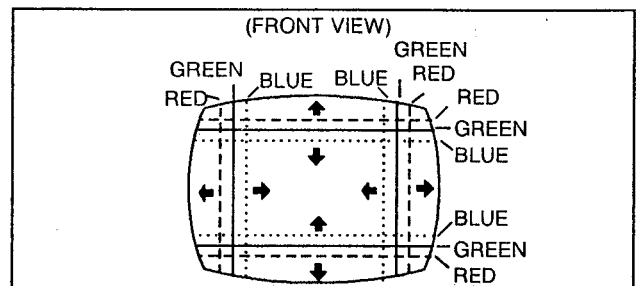


Fig.B-9

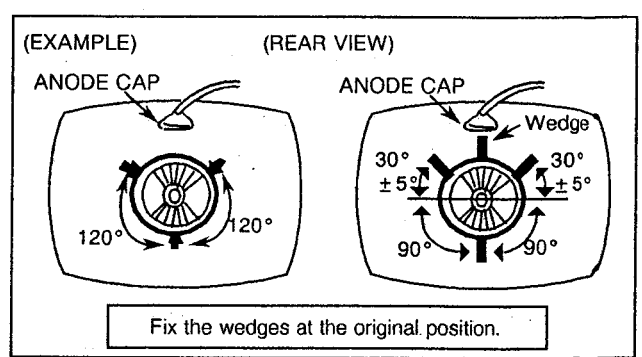


Fig.B-10

PARTS LIST

CAUTION

- The parts marked ⚠ are very important for the safety. When replacing these parts, be sure to use specified ones to secure the safety and performance.
- The module circuit board is supplied together with the assembly, but the parts which do not have the drawing in this Parts List, P. C. Board Ass'y and the Parts No. columns of which are filled with lines —— . will not be supplied.
- As a rule, the resistors and capacitors which are indicated as shown in (NOTE 2) "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board.
  When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to (NOTE 2).

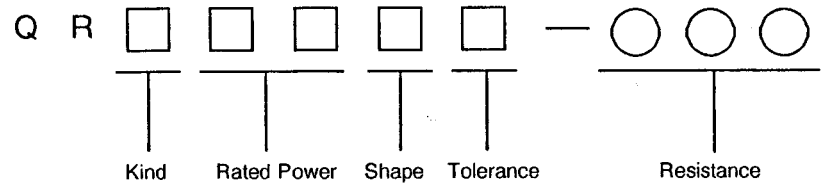
(NOTE 1) ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% - 10%	+50% - 10%	+80% - 20%	+100% - 0%

(NOTE 2) HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

■ RESISTOR



Symbol	Part Name
C	COMP.R
D	C R
S	CH MG R

Symbol	Rated Power
0 1	1 w
1 2	1/2 w
1 4	1/4 w
1 6	1/6 w
1 8	1/8 w

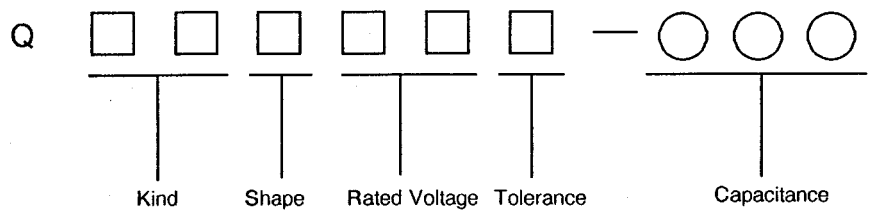
Symbol	Shape
1	Straight lead
8	Chip

Indicate with first two-figure expressed by Ω and following 0.
please note that,in case of resistance less than 10 Ω, a letter "R"will be effective as point.

EX.

2.2 Ω	=		2R2
470 Ω	=	47×10^{1} →	471
150kΩ	=	15×10^{4} →	154

■ CAPACITOR



Symbol	Part Name
CS	C CAP.
CS	CH C CAP.
ET	E CAP.
FM	M CAP.

5Figure / 6Figure	0	1	2
A		10V	100V
C		16V	160V
D			200V
E		25V	250V
H		50V	500V
J	6.3V	63V	
V		35V	

Indicate with first two-figure expressed by pF and following 0.
Please note that,in case of capacitance less than 10 pF a letter "R" will be effective as point.

EX

5pF	=		5R0
1000pF	=	10×10^{2} →	102
47μF	=	47×10^{6} →	476

Symbol	Shape
1	Straight lead
1	Leads in the same direction
8	Chip
A	Leads in the same direction (compact part)

MAIN PARTS LIST

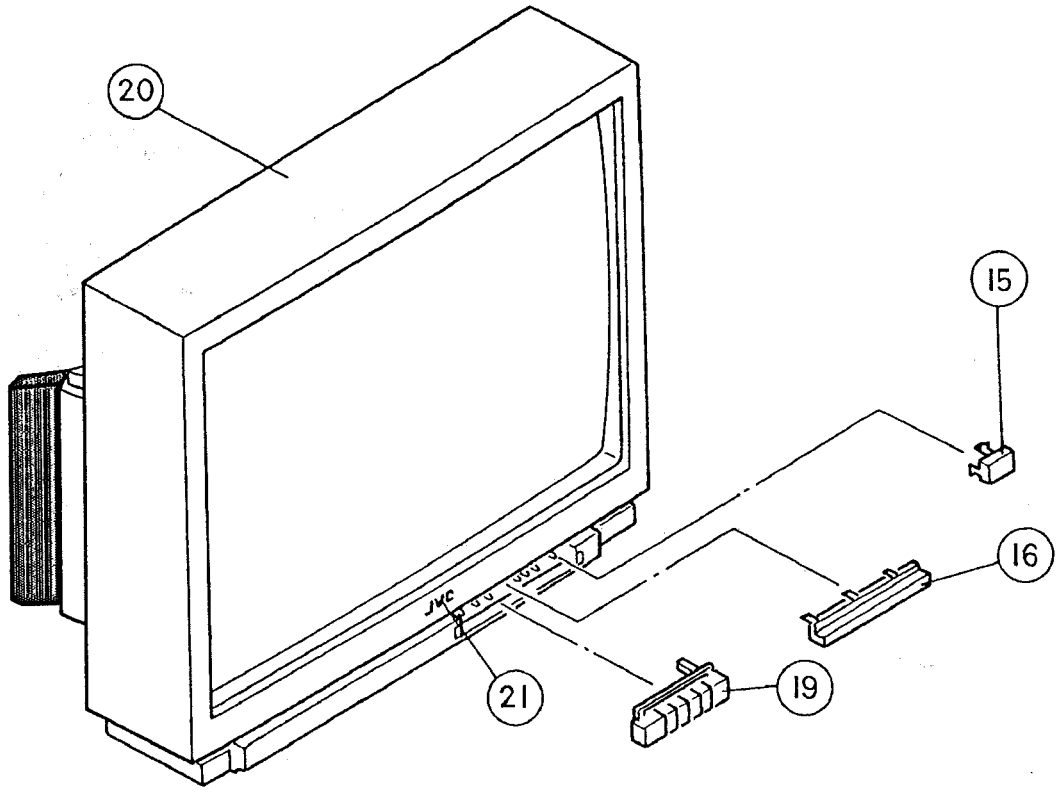
SYMBOL NO.	⚠	PART NO.	PART NAME	REMARKS
CRT & TUNER				
		CE41596-00AJ1	WEDGE ASSY	X4 *
		A75034-B	P. C. MAGNET	
	⚠	CE20187-00C-KD	DEF YOKE	DY01
	⚠	CE41707-002	DEG COIL	L01
	⚠	AN3181EL-B01	TUNER	TU1701 *
	⚠	M78JUA25X-KD	PICTURE TUBE	V01 *
VARIABLE R				
R1113		QVPE610-203H	V R (NOISE)	20kΩ B
R1273		QVPA601-471A	V R (COMB. FILTER)	470 Ω B
R1423		QVPE610-103H	TRIM R (V. HEIGHT)	10kΩ B
R1426		QVPE610-503H	TRIM R (V. LIN)	50kΩ B
R1508		QVPE610-201H	TRIM R (H. CENTER)	200 Ω B
R1601		QVPE610-103H	V R (SEPA)	10kΩ B
R3313		QVPA803-502M	V R (R CUT OFF)	5kΩ B
R3314		QVPA803-502M	V R (G CUT OFF)	5kΩ B
R3315		QVPA803-502M	V R (B CUT OFF)	5kΩ B
R3319		QVPA803-201M	V R (R DRIVE)	200 Ω B
R3320		QVPA803-201M	V R (G DRIVE)	200 Ω B
R9559		QVPE610-203H	V R (SIDE PIN CORRECT)	20kΩ B
R9561	⚠	QVPE610-502H	V R (H. WIDTH)	5kΩ B
TRANSFORMER				
T1541		A46022-BM	HOR DRIVE TRANSF	
	⚠	CE41899-00A-KD	FBT	T1542
T9902	⚠	CE41741-002	POWER TRANSF.	
DIODE				
D1001		MA4330 (L) -T2	ZENER DIODE	
D1251		RD5. 6JS (B3) -T2	ZENER DIODE	
D1253		RD13JS (B) -T2	ZENER DIODE	
D1254		RD13JS (B) -T2	ZENER DIODE	
D1255		MA4130 (M) -T2	ZENER DIODE	
D1425	⚠	05AZ75-T5	ZENER DIODE	
D1511		RD12E (B1) -T2	ZENER DIODE	
D1541	⚠	CTU-G3DR	DUMP DIODE	
D1543	⚠	MA4068 (N) C1-T2	ZENER DIODE	
D1551		MA4068 (N) C1	ZENER DIODE	
D1611		MA4150 (M) -T2	ZENER DIODE	
D1612		MA4150 (M) -T2	ZENER DIODE	
D1711		MA4051 (H) -T2	ZENER DIODE	
D1715		GL-5HD23	L. E. D.	POWER/ON TIMER IND.
D1757		MA4062 (H) -T2	ZENER DIODE	
D1861		MA4120 (M) -T2	ZENER DIODE	
D1862		RD13JS (B) -T2	ZENER DIODE	
D9901	⚠	S4VB40	SI DIODE STACK	
TRANSISTOR				
Q1542	⚠	2SD2148-C1	SI. TRANSISTOR	H. OUT
IC				
IC1001		TA78L005AP	I. C.	
IC1201		VC2024Z	I. C.	
IC1202		AN7809F	I. C.	
IC1251		M52005P	I. C. (M)	
IC1421	⚠	TA8432K	I. C.	
IC1551	⚠	UPC2412HF	I. C.	
IC1611		M5218L	I. C.	
IC1612		TDA3810	I. C.	
IC1631		TDA1526	I. C.	
IC1661	⚠	TA8200AH	I. C. (M)	

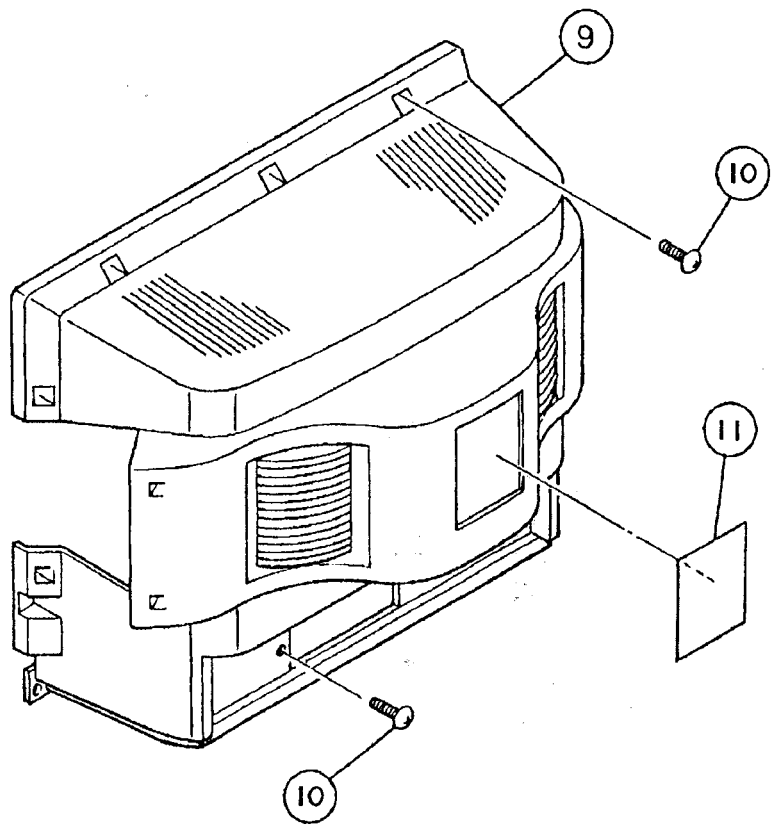
SYMBOL NO.	⚠	PART NO.	PART NAME	REMARKS
IC				
IC1701		MN1872013JXK4	I C	
IC1702		MN1280-K	I. C. (M)	
IC1831		MN12C261D	I C	
IC1841		GP1U721Q	IR DETECT UNIT	
IC1861		M51320P	I. C. (M)	
IC6601		CXA1124AS	I. C.	
IC9901	⚠	STRS6301-LF953	I. C.	
IC9921	⚠	SE120N	I. C.	
OTHERS				
		SX-6106A (H1)	MTS PCB ASSY	
		CM11597-0AA-MA	FRONT CABI ASSY	*
		CM33719-00C-V0	ANT TERM ASSY	
		CM33797-00A-KD	PUSH KNOB	
	⚠	QMP14C0-200J3	POWER CORD	*
		CM11599-031-MA	REAR COVER	*
CF1501		CSB503F38	C. RESONATOR	
CF1701		CST4. 00MGW	CERAMIC RESONATO	
DL1271		CE41577-001	DELAY LINE	
F9901	⚠	QMF66U1-4R0S	FUSE	
LF9901	⚠	CE40248-00B	LINE FILTER	
LF9902	⚠	CE40247-00B	LINE FILTER	
LF9903	⚠	CE40847-00A	LINE FILTER	
PC9902	⚠	TLP621 (GB)	PHOTO COUPLER	
RY9901	⚠	CESK002-001	RELAY	
	⚠	EAS-12D116D-KD	CONE SPEAKER	X2. SP01. SP02
S1401		QSL4A13-C02	LEVER SWITCH	V. CENTER
S1701		QSP4H11-C03	PUSH SWITCH	FUNCTION
S1702		QSP4H11-C03	PUSH SWITCH	CH DOWN
S1703		QSP4H11-C03	PUSH SWITCH	CH UP
S1704		QSP4H11-C03	PUSH SWITCH	POWER
S1705		QSP4H11-C03	PUSH SWITCH	VOL UP
S1706		QSP4H11-C03	PUSH SWITCH	VOL DOWN
S1707		QSL4A13-C02	LEVER SWITCH	VSM SERVICE SW
S3301		QSL4A13-C02	LEVER SWITCH	SERVICE SW
TH9501		CE41696-332	P T C	
TH9901	⚠	CE40595-001	TH POSISTOR	
X1301		A76351-D	CRYSTAL	

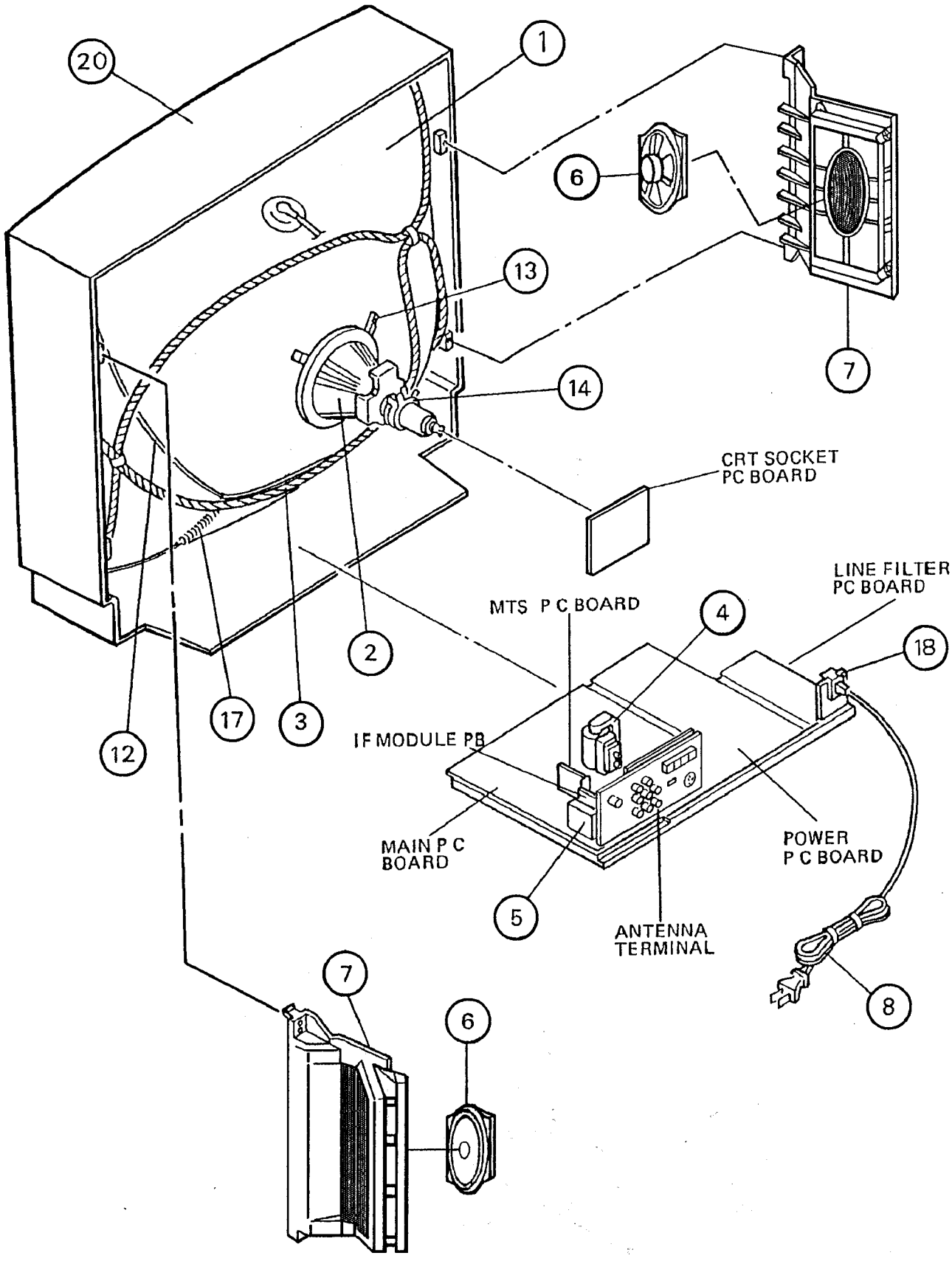
EXPLODED VIEW PARTS LIST

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
⚠	1	M78JUA25X-KD	PICTURE TUBE	V01 *
⚠	2	CE20187-00C-KD	DEF YOKE	DY01
⚠	3	CE41707-002	DEG COIL	L01
⚠	4	CE41899-00A-KD	FBT	T1542
⚠	5	AN3181EL-B01	TUNER	TU1701 *
⚠	6	EAS-12D116D-KD	CONE SPEAKER	X2. SP01. SP02
	7	CM11794-00A-M0	SP GRILLE ASSY	X2
⚠	8	QMP14C0-200J3	POWER CORD	*
	9	CM11599-031-MA	REAR COVER	*
	10	GBSB4016N	W TAP SCREW	X17 *
	11	CM4488.9-001-A	RATING LABEL	*
	12	CH30392-00C	BRIDED ASSY	
	13	CE41596-00AJ1	WEDGE ASSY	X4 *
	14	A75034-B	P. C. MAGNET	
	15	CM33798-001-V0	REMOCON WINDOW	
	16	CM21888-002-V0	KNOB HOLDER	
	17	CH43109-00A	BRAIDED SUB ASSY	
	18	CM33811-A01-V0	CORD PLATE	
	19	CM33797-00A-KD	PUSH KNOB	
	20	CM11597-0AA-MA	FRONT CABI ASSY	*
	21	CM43094-002	JVC MARK	

EXPLODED VIEW






20
1
6
13
7
14
CRT SOCKET
PC BOARD
LINE FILTER
PC BOARD
MTS P C BOARD
4
18
2
17
3
12
IF MODULE PB
MAIN P C
BOARD
POWER
P C BOARD
5
ANTENNA
TERMINAL
8
7
6
0

PRINTED CIRCUIT BOARD PARTS LIST

MAIN PC BOARD Ass'y (SGX1005A(H1))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS		
	VARIABLE R					
	R1113	QVPE610-203H	V R (NOISE)	20kΩ	B	
	R1273	QVPA601-471A	V R (COMB. FILTER)	470 Ω	B	
	R1423	QVPE610-103H	TRIM R (V. HEIGHT)	10kΩ	B	
	R1426	QVPE610-503H	TRIM R (V. LIN)	50kΩ	B	
	R1508	QVPE610-201H	TRIM R (H. CENTER)	200 Ω	B	
	R1601	QVPE610-103H	V R (SEPA)	10kΩ	B	
	RESISTOR					
⚠	RB1532	CJ39622-00J	R BLOCK			
	R1424	QRX019J-1R0S	MF R	1.0 Ω	1W	J
⚠	R1429	QRD161J-4R7Y	C R	4.7 Ω	1/6W	J
⚠	R1430	QRC121K-561Z	COMP. R	560 Ω	1/2W	K
⚠	R1432	QRD121J-821SY	C R	820 Ω	1/2W	J
	R1521	QRV141F-1002AY	MF R	10kΩ	1/4W	F
	R1522	QRG029J-392	OM R	3.9kΩ	2W	J
⚠	R1523	QRG029J-392	OM R	3.9kΩ	2W	J
⚠	R1524	QRG029J-152	OM R	1.5kΩ	2W	J
⚠	R1525	QRG029J-681A	OM R	680 Ω	2W	J
	R1526	QRV141F-2701AY	MF R	2.7kΩ	1/4W	F
⚠	R1531	QRD121J-4R7SY	C R	4.7 Ω	1/2W	J
	R1543	QRD123J-562SX	C R	5.6kΩ	1/2W	J
⚠	R1544	QRG039J-472	OM R	4.7kΩ	3W	J
⚠	R1545	QRG039J-472	OM R	4.7kΩ	3W	J
⚠	R1561	QRX039J-2R7A	MF R	2.7 Ω	3W	J
⚠	R1563	QRX039J-1R0A	MF R	1.0 Ω	3W	J
⚠	R1564	QRD161J-123Y	C R	12kΩ	1/6W	J
⚠	R1565	QRD161J-273Y	C R	27kΩ	1/6W	J
⚠	R1566	QRD141J-1R0SY	C R	1.0 Ω	1/4W	J
	R1568	QRG029J-223	OM R	22kΩ	2W	J
⚠	R1667	QRD161J-2R2Y	C R	2.2 Ω	1/6W	J
⚠	R1668	QRD161J-2R2Y	C R	2.2 Ω	1/6W	J
⚠	R1669	QRD161J-102Y	C R	1kΩ	1/6W	J
⚠	R1670	QRD161J-102Y	C R	1kΩ	1/6W	J
	R1925	QRG019J-101S	OM R	100 Ω	1W	J
	CAPACITOR					
	C1003	QEM51CM-477M	E CAP.	470μF	16V	M
	C1111	QEK51HM-104GM	E CAP.	0.1μF	50V	M
	C1201	QEN61HM-335Z	BP E CAP.	3.3μF	50V	M
	C1252	QFV71HJ-104MZ	TF CAP.	0.1μF	50V	J
	C1315	QAT3110-100A	TRIM. CAP.	10pF	100V	
	C1316	QEN61HM-225Z	BP E CAP.	2.2μF	50V	M
	C1403	QEN61HM-105Z	BP E CAP.	1μF	50V	M
	C1421	QEHC1CM-107MZ	E CAP.	100μF	16V	M
	C1422	QEE61VK-105BZ	TAN. CAP.	1μF	35V	K
	C1424	QFV71HJ-334MZ	TF CAP.	0.33μF	50V	J
⚠	C1426	QEHC1VM-107MZ	E CAP.	100μF	35V	M
	C1502	QEN61HM-105Z	BP E CAP.	1μF	50V	M
	C1521	QEN61VM-475Z	BP E CAP.	4.7μF	35V	M
⚠	C1525	QFZ0089-534S	MPP CAP.	0.53μF	200V	J
	C1543	QEH52EM-225M	E CAP.	2.2μF	250V	M
	C1544	QFZ0081-2501S	MPP CAP.	2500pF	1600V	±3%
⚠	C1545	QFZ0081-6501S	MPP CAP.	6500pF	1600V	±3%
	C1546	QFZ0081-7401S	MPP CAP.	7400pF	1600V	±3%
	C1547	QFP32GJ-223M	PP CAP.	0.022μF	400V	J
⚠	C1561	QETC1EM-477Z	E CAP.	470μF	25V	M
⚠	C1563	QETB1VM-108	E CAP.	1000μF	35V	M
⚠	C1564	QFM71HK-103MZ	M CAP.	0.01μF	50V	K
⚠	C1565	QET52ER-336	E CAP.	33μF	250V	R

	SYMBOL NO.	PART NO.	PART NAME	REMARKS		
	CAPACITOR					
	C1567	QFV71HJ-104MZ	TF CAP.	0.1μF	50V	J
	C1612	QEN61HM-474Z	BP E CAP.	0.47μF	50V	M
	C1613	QEN61CM-106Z	BP E CAP.	10μF	16V	M
	C1622	QEN61HM-474Z	BP E CAP.	0.47μF	50V	M
	C1623	QEN61CM-106Z	BP E CAP.	10μF	16V	M
	C1624	QEN61HM-474Z	BP E CAP.	0.47μF	50V	M
	C1631	QEN61CM-106Z	BP E CAP.	10μF	16V	M
	C1632	QEN61CM-106Z	BP E CAP.	10μF	16V	M
	C1635	QFV71HJ-224MZ	TF CAP.	0.22μF	50V	J
	C1636	QFV71HJ-563MZ	TF CAP.	0.056μF	50V	J
	C1646	QFV71HJ-563MZ	TF CAP.	0.056μF	50V	J
⚠	C1669	QETB1HM-108	E CAP.	1000μF	50V	M
	C1670	QFV71HJ-124MZ	TF CAP.	0.12μF	50V	J
	C1671	QFV71HJ-124MZ	TF CAP.	0.12μF	50V	J
⚠	C1672	QETC1CM-108Z	E CAP.	1000μF	16V	M
⚠	C1673	QETC1CM-108Z	E CAP.	1000μF	16V	M
	C1781	QEN61HM-105Z	BP E CAP.	1μF	50V	M
	C1869	QEN61CM-106Z	BP E CAP.	10μF	16V	M
	C1871	QEKC1HM-105GMZ	E CAP.	1μF	50V	M
	C1872	QEN61CM-106Z	BP E CAP.	10μF	16V	M
	C1874	QEKC1CM-336MZ	E CAP.	33μF	16V	M
	TRANSFORMER					
	T1271	CE40176-001	DL P TRANSF.			
	T1541	A46022-BM	HOR DRIVE TRANSF			
	COIL					
	L1201	A76186-82Z	PEAKING COIL	82μH		
	L1271	A76186-22Z	PEAKING COIL	22μH		
	L1272	CE40041-180	PEAKING COIL	18μH		
	L1273	A76186-82Z	PEAKING COIL	82μH		
	L1401	A76186-560Z	PEAKING COIL	56μH		
⚠	L1521	CE41345-00A	LINEARITY COIL			
⚠	L1528	CE41923-001	CORE SLEEVE			
	L1702	CE40041-220Z	PEAKING COIL	22μH		
	L1831	A76186-1.0Z	PEAKING COIL	1.0μH		
	DIODE					
	D1001	MA4330(L)-T2	ZENER DIODE			
	D1241	MA165-T2	SI. DIODE			
	D1242	MA165-T2	SI. DIODE			
	D1251	RD5.6JS(B3)-T2	ZENER DIODE			
	D1253	RD13JS(B)-T2	ZENER DIODE			
	D1254	RD13JS(B)-T2	ZENER DIODE			
	D1255	MA4130(M)-T2	ZENER DIODE			
	D1291	MA165-T2	SI. DIODE			
	D1292	MA165-T2	SI. DIODE			
	D1301	MA165-T2	SI. DIODE			
	D1302	MA165-T2	SI. DIODE			
	D1303	MA165-T2	SI. DIODE			
	D1304	MA165-T2	SI. DIODE			
	D1305	MA165-T2	SI. DIODE			
	D1306	MA165-T2	SI. DIODE			
⚠	D1421	1SR35-100A-T2	SI. DIODE			
⚠	D1425	05AZ75-T5	ZENER DIODE			
	D1511	RD12E(B1)-T2	ZENER DIODE			
	D1512	MA165-T2	SI. DIODE			
	D1521	MA165-T2	SI. DIODE			
	D1522	MA165-T2	SI. DIODE			
	D1523	MA165-T2	SI. DIODE			

SYMBOL NO.	PART NO.	PART NAME	REMARKS
DIODE			
⚠ D1531	1SS81-T2	SI. DIODE	
⚠ D1541	CTU-G3DR	DUMP DIODE	
D1542	U19E-FK	SI. DIODE	
⚠ D1543	MA4068 (N) C1-T2	ZENER DIODE	
⚠ D1545	1SS81-T2	SI. DIODE	
⚠ D1546	U19E-FK	SI. DIODE	
⚠ D1547	RU3AM-LFB1	SI. DIODE	
⚠ D1548	RGP10J-T3	SI. DIODE	
⚠ D1549	RH1S-T3	SI. DIODE	
D1550	DFA1A4-T3	SI. DIODE	
D1551	MA4068 (N) C1	ZENER DIODE	
D1552	1SS81	SI. DIODE	
D1602	MA165-T2	SI. DIODE	
D1603	MA165-T2	SI. DIODE	
D1604	MA165-T2	SI. DIODE	
D1611	MA4150 (M) -T2	ZENER DIODE	
D1612	MA4150 (M) -T2	ZENER DIODE	
D1641	MA165-T2	SI. DIODE	
D1642	MA165-T2	SI. DIODE	
D1643	MA165-T2	SI. DIODE	
D1644	MA165-T2	SI. DIODE	
D1645	MA165-T2	SI. DIODE	
D1647	MA165-T2	SI. DIODE	
D1648	MA165-T2	SI. DIODE	
D1711	MA4051 (H) -T2	ZENER DIODE	
D1712	MA165-T2	SI. DIODE	
D1713	MA165-T2	SI. DIODE	
D1715	GL-5HD23	L. E. D.	POWER/ON TIMER IND.
D1720	MA165-T2	SI. DIODE	
D1721	MA165-T2	SI. DIODE	
D1722	MA165-T2	SI. DIODE	
D1723	MA165-T2	SI. DIODE	
D1724	MA165-T2	SI. DIODE	
D1725	MA165-T2	SI. DIODE	
D1726	MA165-T2	SI. DIODE	
D1731	MA165-T2	SI. DIODE	
D1732	MA165-T2	SI. DIODE	
D1751	MA165-T2	SI. DIODE	
D1752	MA165-T2	SI. DIODE	
D1753	MA165-T2	SI. DIODE	
D1755	MA165-T2	SI. DIODE	
D1756	MA165-T2	SI. DIODE	
D1757	MA4062 (H) -T2	ZENER DIODE	
D1758	MA165-T2	SI. DIODE	
D1759	MA165-T2	SI. DIODE	
D1831	MA165-T2	SI. DIODE	
D1861	MA4120 (M) -T2	ZENER DIODE	
D1862	RD13JS (B) -T2	ZENER DIODE	
TRANSISTOR			
Q1211	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1241	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1250	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1251	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1252	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1281	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1291	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1292	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1293	2SA673 (C) -T	SI. TRANSISTOR	

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	TRANSISTOR			
	Q1423	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1501	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1541	2SC2482 (C1) -T	SI. TRANSISTOR	
⚠	Q1542	2SD2148-C1	SI. TRANSISTOR	H. OUT
	Q1603	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1604	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1605	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1641	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1642	2SA1175 (JH) -T	SI. TRANSISTOR	
	Q1651	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1654	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1655	2SA1175 (JH) -T	SI. TRANSISTOR	
	Q1656	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1657	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1701	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1702	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1703	2SB774 (RS) -T	SI. TRANSISTOR	
	Q1704	2SB774 (RS) -T	SI. TRANSISTOR	
	Q1741	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1781	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1782	2SA1175 (JH) -T	SI. TRANSISTOR	
	Q1791	2SC2655 (Y) -T	SI. TRANSISTOR	
	Q1861	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1862	2SC2785 (JH) -T	SI. TRANSISTOR	
	Q1863	2SC2878 (B) -T	SI. TRANSISTER	
	Q1864	2SA1175 (JH) -T	SI. TRANSISTOR	
	Q1865	2SC2878 (B) -T	SI. TRANSISTER	
	Q1921	2SC1959 (Y) -T	SI. TRANSISTER	
	IC			
	IC1001	TA78L005AP	I. C.	
	IC1201	VC2024Z	I. C.	
	IC1202	AN7809F	I. C.	
	IC1251	M52005P	I. C. (M)	
⚠	IC1421	TA8432K	I. C.	
⚠	IC1551	UPC2412HF	I. C.	
	IC1611	M5218L	I. C.	
	IC1612	TDA3810	I. C.	
	IC1631	TDA1526	I. C.	
⚠	IC1661	TA8200AH	I. C. (M)	
	IC1701	MN1872013JXK4	I C	
	IC1702	MN1280-K	I. C. (M)	
	IC1831	MN12C261D	I C	
	IC1841	GP1U721Q	IR DETECT UNIT	
	IC1861	M51320P	I. C. (M)	
	OTHERS			
		CM33719-00C-V0	ANT TERM ASSY	
	CF1501	CSB503F38	C. RESONATOR	
	CF1701	CST4. 00MGW	CERAMIC RESONATO	
	DL1271	CE41577-001	DELAY LINE	
	S1401	QSL4A13-C02	LEVER SWITCH	V. CENTER
	S1701	QSP4H11-C03	PUSH SWITCH	FUNCTION
	S1702	QSP4H11-C03	PUSH SWITCH	CH DOWN
	S1703	QSP4H11-C03	PUSH SWITCH	CH UP
	S1704	QSP4H11-C03	PUSH SWITCH	POWER
	S1705	QSP4H11-C03	PUSH SWITCH	VOL UP
	S1706	QSP4H11-C03	PUSH SWITCH	VOL DOWN
	S1707	QSL4A13-C02	LEVER SWITCH	VSM SERVICE SW
	X1301	A76351-D	CRYSTAL	

CRT SOCKET PC BOARD Ass'y (SGX3004A(H1))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	VARIABLE R			
	R3313	QVPA803-502M	V R (R CUT OFF)	5kΩ B
	R3314	QVPA803-502M	V R (G CUT OFF)	5kΩ B
	R3315	QVPA803-502M	V R (B CUT OFF)	5kΩ B
	R3319	QVPA803-201M	V R (R DRIVE)	200 Ω B
	R3320	QVPA803-201M	V R (G DRIVE)	200 Ω B
	RESISTOR			
	R3304	QRG029J-153	OM R	15kΩ 2W J
	R3305	QRG029J-153	OM R	15kΩ 2W J
	R3306	QRG029J-183	OM R	18kΩ 2W J
	R3307	QRG029J-183	OM R	18kΩ 2W J
	R3308	QRG029J-183	OM R	18kΩ 2W J
	R3309	QRG029J-153	OM R	15kΩ 2W J
	R3325	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3326	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3327	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3328	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3329	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3330	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
⚠	R3363	QRC121K-105Z	COMP. R	1MΩ 1/2W K
	R3364	ERZ-C05VK271Z	ZINC. N. R	270 Ω
	CAPACITOR			
	C3361	QFH63BK-223M	MM CAP.	0.022μF 1250V K
⚠	C3363	QET52ER-106	E CAP.	10μF 250V R
	COIL			
⚠	L3301	QQL043K-101	PEAKING COIL	100μH
⚠	L3302	QQL043K-121	PEAKING COIL	120μH
⚠	L3303	QQL043K-101	PEAKING COIL	100μH
	L3304	A76186-47Z	PEAKING COIL	47μH
	L3305	A76186-47Z	PEAKING COIL	47μH
	L3306	A76186-47Z	PEAKING COIL	47μH
⚠	L3307	CJ30030-046	HEATER CHOKE	
	DIODE			
	D3301	1SS133-T2	SI. DIODE	
	D3302	1SS133-T2	SI. DIODE	
	D3310	1SS133-T2	SI. DIODE	
	D3311	1SS133-T2	SI. DIODE	
	D3312	1SS133-T2	SI. DIODE	
	D3361	RM2C-LFA1	SI. DIODE	
	TRANSISTOR			
	Q3301	2SC4502-T	SI. TRANSISTOR	
	Q3302	2SC4502-T	SI. TRANSISTOR	
	Q3303	2SC4502-T	SI. TRANSISTOR	
	Q3304	2SC2068-LB	SI. TRANSISTOR	
	Q3305	2SC2068-LB	SI. TRANSISTOR	
	Q3306	2SC2068-LB	SI. TRANSISTOR	
	OTHERS			
⚠		CE41603-002	CRT SOCKET	
	S3301	QSL4A13-C02	LEVER SWITCH	SERVICE SW

POWER PC BOARD Ass'y (SGX9005A(H1))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	VARIABLE R			
	R9559	QVPE610-203H	V R (SIDE PIN COR	RECT) 20kΩ B
⚠	R9561	QVPE610-502H	V R (H. WIDTH)	5kΩ B
	RESISTOR			
	R9551	QRX039J-4R7A	MF R	4.7 Ω 3W J
⚠	R9554	QRD161J-184Y	C R	180kΩ 1/6W J
⚠	R9556	QRD161J-153Y	C R	15kΩ 1/6W J
⚠	R9567	QRD161J-392Y	C R	3.9kΩ 1/6W J
⚠	R9901	QRF104K-1R0	UNF R	1.0 Ω 10W K
⚠	R9903	QRG039J-333	OM R	33kΩ 3W J
⚠	R9904	QRD121J-564SY	C R	560kΩ 1/2W J
	R9905	QRM055K-R22	MP R	0.22 Ω 5W K
	R9906	QRG039J-220	OM R	22 Ω 3W J
	R9907	QRG039J-180	OM R	18 Ω 3W J
	R9908	QRX029J-8R2	MF R	8.2 Ω 2W J
	R9909	QRD149J-561S	C R	560 Ω 1/4W J
	R9910	QRD149J-471S	C R	470 Ω 1/4W J
	R9911	QRZ0086-R05	MP R	0.05 Ω 5W K
⚠	R9913	QRG019J-223S	OM R	22kΩ 1W J
	R9914	QRD149J-101S	C R	100 Ω 1/4W J
⚠	R9922	QRD121J-561SY	C R	560 Ω 1/2W J
	R9931	QRG029J-271	OM R	270 Ω 2W J
⚠	R9932	QRG039J-181A	OM R	180 Ω 3W J
⚠	R9991	QRC121K-275EZ	COMP. R	2.7MΩ 1/2W K
	CAPACITOR			
	C9551	QEM61HK-106MZ	E CAP.	10μF 50V K
	C9553	QFZ0083-683MZ	M CAP.	0.068μF 50V K
	C9555	QFZ0083-683MZ	M CAP.	0.068μF 50V K
⚠	C9557	QETC1VM-476Z	E CAP.	47μF 35V M
⚠	C9910	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9911	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9912	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9913	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9914	QEZ0145-687R	E CAP.	680μF 200V M
⚠	C9915	QFP32GK-103M	PP CAP.	0.01μF 400V K
⚠	C9916	QFP32JK-222M	PP CAP.	2200pF 630V K
	C9918	QEHB2AM-107M	E CAP.	100μF 100V M
	C9920	QFV81HJ-105M	TF CAP.	1μF 50V J
⚠	C9921	QCS32HJ-331UZ	CH C CAP.	330pF 500V J
⚠	C9931	QCY32HK-561AZ	CH C CAP.	560pF 500V K
⚠	C9933	QCZ0128-152A	C CAP.	1500pF 500V K
⚠	C9934	QCY31HK-102AZ	CH C CAP.	1000pF 50V K
⚠	C9935	QEH72DM-477M	E CAP.	470μF 200V M
⚠	C9936	QEH72DM-477M	E CAP.	470μF 200V M
⚠	C9937	QETB1VM-338	E CAP.	3300μF 35V M
⚠	C9938	QETB1VM-338	E CAP.	3300μF 35V M
⚠	C9991	QCZ9029-103M	C CAP.	0.01μFAC125V M
⚠	C9992	QCZ9029-103M	C CAP.	0.01μFAC125V M
	TRANSFORMER			
⚠	T9901	CE41922-A01	SW TRANSF	
⚠	T9902	CE41741-002	POWER TRANSF.	
	COIL			
	L9551	CELC009-001	WIDTH COIL	
⚠	L9901	CJ30030-100	HEATER CHOKE	
⚠	L9902	CJ30030-100	HEATER CHOKE	
	L9904	CE40107-001	CORD SLEEVE	

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	DIODE			
⚠	D9901	S4VB40	SI DIODE STACK	
⚠	D9902	RU2-LFA1	SI. DIODE	
	D9903	DFA1A4-T3	SI. DIODE	
	D9904	1SS81-T2	SI. DIODE	
⚠	D9921	RU4AM-LFK2	SI. DIODE	
⚠	D9922	RU4YX-LFK2	SI. DIODE	
	D9931	S1WB10	SI. DIODE	
	D9932	MA165-T2	SI. DIODE	
	D9933	MA165-T2	SI. DIODE	
	D9934	MA165-T2	SI. DIODE	
	TRANSISTOR			
	Q9551	2SC3311A (QR) -T	SI. TRANSISTOR	
	Q9552	2SA1309A (QR) -T	SI. TRANSISTOR	
	Q9553	2SD1266A (QP)	SI. TRANSISTOR	
	Q9901	2SC1815 (YG) -T	SI. TRANSISTOR	
	IC			
⚠	IC9901	STRS6301-LF953	I. C.	
⚠	IC9921	SE120N	I. C.	
	OTHERS			
⚠	PC9902	TLP621 (GB)	PHOTO COUPLER	
⚠	RY9901	CESK002-001	RELAY	
	TH9501	CE41696-332	P T C	

LINE FILTER PC BOARD Ass'y (SGX9101A(H1))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	RESISTOR			
⚠	R9901	QRC122K-102	COMP. R	1kΩ 1/2W K
	R9990	ERZ-C10DK361U	ZINC N R	
	CAPACITOR			
⚠	C9901	QFZ9022-104M	MF CAP.	0.1μFAC250V M
⚠	C9902	QFZ9022-473M	MF CAP.	0.047μFAC250V M
⚠	C9903	QFZ9022-473M	MF CAP.	0.047μFAC250V M
⚠	C9904	QFZ9022-473M	MF CAP.	0.047μFAC250V M
⚠	C9905	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9906	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9907	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9908	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9909	QFZ9022-473M	MF CAP.	0.047μFAC250V M
	OTHERS			
⚠	F9901	QMF66U1-4R0S	FUSE	
⚠	LF9901	CE40248-00B	LINE FILTER	
⚠	LF9902	CE40247-00B	LINE FILTER	
⚠	LF9903	CE40847-00A	LINE FILTER	
⚠	TH9901	CE40595-001	TH POSISTOR	

MTS PC BOARD Ass'y (SX-6106A(H1))

This pc boards are supplied as assemblies.

The component parts only the PC boards are available only when the parts are listed in the " PRINTED CIRCUIT BOARD PARTS LIST".

SYMBOL NO.	PART NO.	PART NAME	REMARKS
RESISTOR			
R6603	QRV141F-4302AY	MF R	43kΩ 1/4W F
R6608	QRV141F-6201AY	MF R	6.2kΩ 1/4W F
R6609	QRV141F-3901AY	MF R	3.9kΩ 1/4W F
R6610	QRV141F-4702AY	MF R	47kΩ 1/4W F
R6611	QRV141F-4702AY	MF R	47kΩ 1/4W F
CAPACITOR			
C6601	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
C6604	QEKC1HM-474GMZ	E CAP.	0.47μF 50V M
C6605	QEKC1CM-476MZ	E CAP.	47μF 16V M
C6608	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
C6609	QEE61CK-106BZ	TAN. CAP.	10μF 16V K
C6610	QEE61CK-335BZ	TAN. CAP.	3.3μF 16V K
C6611	QEKC1HM-105GMZ	E CAP.	1μF 50V M
C6612	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
C6613	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
C6615	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
C6616	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
C6617	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
C6618	QEKC1HM-475GMZ	E CAP.	4.7μF 50V M
TRANSISTOR			
Q6601	2SC2785 (JH) -T	SI. TRANSISTOR	
Q6602	2SC2785 (JH) -T	SI. TRANSISTOR	
Q6603	2SC2785 (JH) -T	SI. TRANSISTOR	
IC			
IC6601	CXA1124AS	I. C.	

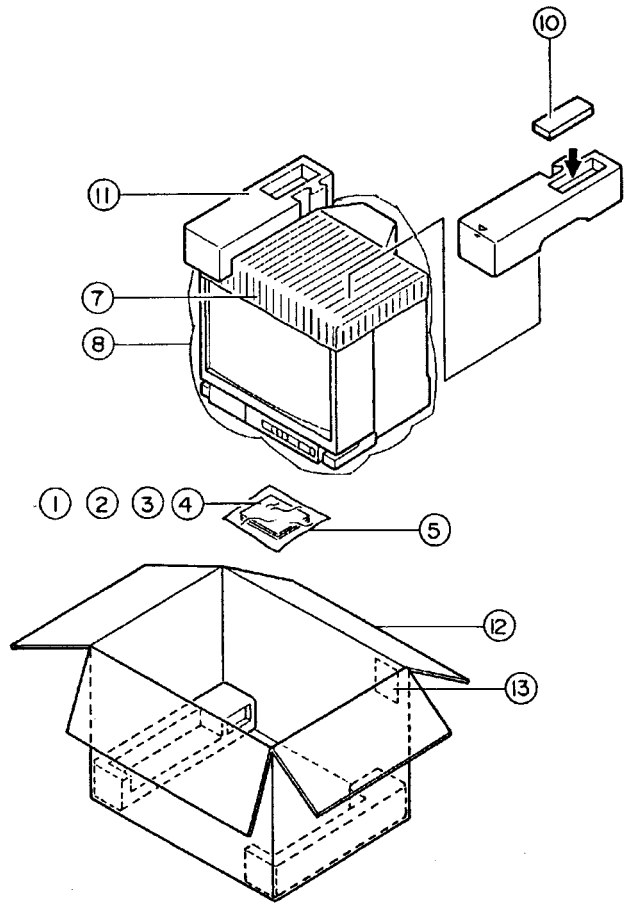
MODULE PC BOARD PARTS LIST

The following module pc boards are supplied as assemblies.

The component parts only the module PC boards are available only when the parts are listed in the "MODULE PRINTED CIRCUIT BOARD PARTS LIST".

IF MODULE PC BOARD Ass'y (SGX-F003A)

PACKING



PACKING PARTSLIST

SYMBOL NO.	PART NO.	PART NAME	REMARKS	
1	CM21229-B01	SAFETY TIPS		
2	BT-20113A	WARRANTY CARD		
3	BT-20108A	SERVICE INF CARD		
4	AV3150S-US-IBA	INST BOOK		
5	CM30751-010	POLY. BAG		
7	CP30055-002-A	TOP COVER		*
8	CP30056-004-A	POLY BAG		*
10	RM-C426-KD	RC HAND PIECE		
11	CP10851-00A-A	CUSHION ASSY	4pcs in 1set	*
12	CP10972-007-A	PACKING CASE		*
13	CM20926-00A-A	REC KEEPING CARD		*

JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF US JVC CORP.

Head office (East Coast)	: 107 Little Falls Road Fairfield, New Jersey 07006	(201)808-2100
Midwest	: 2250 Lively Blvd.,Elk Grove,Illinois 60007	(708)364-0880
Southwest	: 407 Garden Oaks Blvd.,Houston,Texas 77018	(713)694-3331
West Coast	: 5066 Corporate Avenue,Cypress,California 90630	(714)229-8011
Southeast	: 3040 Northwoods Parkway,Norcross,Georgia 30071	(404)441-9244
Hawaii	: 2969 Mapunapuna Place Honolulu, Hawaii 96819	(808)833-5828

JVC

AV3150SU-SJA

Printed in Japan
90 07 V.P.
MH/MH

JVC AV-3150S (US) SCHEMATIC DIAGRAM

NOTICE

The voltage reading and waveform are measured at each point with a multi-meter and an oscilloscope while receiving a service color bar signal with a sufficient sensitivity. The measurements were made with each VR under the condition just after the shipment. The figures of the signal circuits may be more or less different after adjustments, so use the figures simply for reference.

Multimeter used
DC 20kΩ/V
Given figures are all DC voltages.
Sweep speed of oscilloscope
H → 20 μS/div. V → 5 mS/div.
Others → sweep speed specified

Since the schematic diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

SAFETY

FR (FR) denotes a fusible resistor which operates as a fuse. When replacing fusible resistors and parts indicated with black shading ( ) in the circuit diagrams, be sure to ensure safety by using designated parts.
As to other parts too, use designated parts to maintain safety and performance.

INDICATION OF PARTS SYMBOL

Inside board (Example) SGX 1005A(H1):R1209→R209
Outside board (Example) R0001→R01

SCHEMATIC DIAGRAM INDICATION

Resistor

- Resistance value
  Without unit: [Ω] K : [kΩ] M : [MΩ]
- Rated allowable power
  Without indication : 1/6W
  Others Indicated
- Type
  Without indication : Carbon resistor
  OMR : Oxide metal film resistor
  UNFR : Unflammable resistor
  MFR : Metal film resistor
  FR : Fusible resistor
  • Composition resistor 1/2 [W] is indicated as 1/2S or Comp.

Capacitor

- Capacitance
  Above 1: [pF] Below 1: [μF]
- Withstand Voltage
  Without indication : DC 50 [V]
  • Others : DC withstand voltage [V]
  AC indicated : AC withstand voltage [V]
- Indications for electrolytic capacitors are as follows.
  (Example)
  47/50 → capacitance [μF] / withstand voltage [V]
- Type
  Without indication : Ceramic capacitor
  MY : Mylar capacitor
  MM : Metalized mylar capacitor
  PP : Polypropylene capacitor
  MPP : Metalized polypropylene capacitor
  NP : Nonpolar electrolytic capacitor
  BP : Bipolar electrolytic capacitor
  TAN. : Tantalum capacitor

Coil
Without unit : [μH]

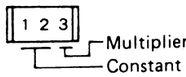
Power Supply
: B1 (120.3V) : B2 (12V)
: 9V : 5V
• Each voltage reading specified.

Connection method
: Connector : Receptacle
: Wrapping or soldering

Test point & GND. symbol.
: Test point by miniature GT pin
: Only test point display
: Live (Primary) side ground
: Neutral (Secondary) side ground

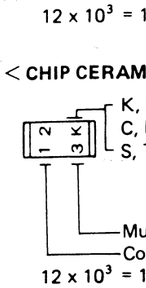
■ DECODING CHIP PARTS CONSTANT TERMS

< CHIP METAL GLAZE RESISTOR >



$12 \times 10^3 = 12000\ [\Omega] = 12\ [k\Omega]$ (Resistance)

< CHIP CERAMIC CAPACITOR >

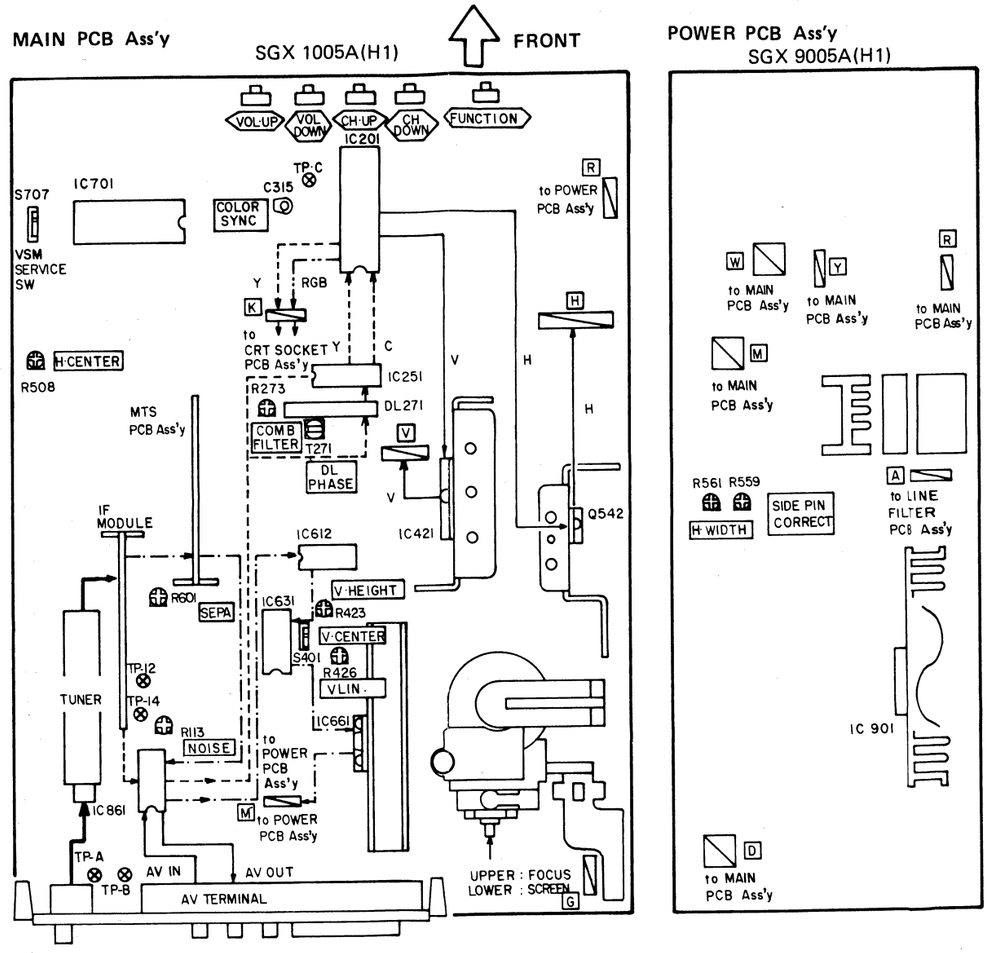

1 2 3
K, M, Z, P . . . Tolerance of ordinary type
C, P, R, ... Temperature coefficient of
S, T, U temperature compensation type
Multiplier
Constant term

$12 \times 10^3 = 12000\ [pF] = 0.012\ [\mu F]$ (Capacitance)

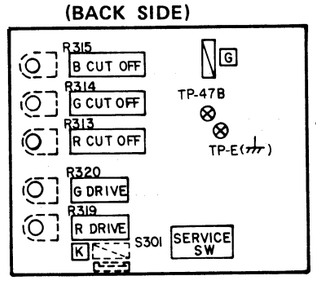
NOTE FOR SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE (primary: ⊥) side GND and the NEUTRAL (secondary: ⏚) side GND.
Don't short between the LIVE side GND and NEUTRAL side GND or never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and NEUTRAL side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.

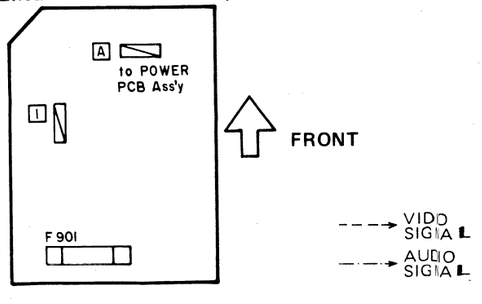
ALIGNMENT LOCATION



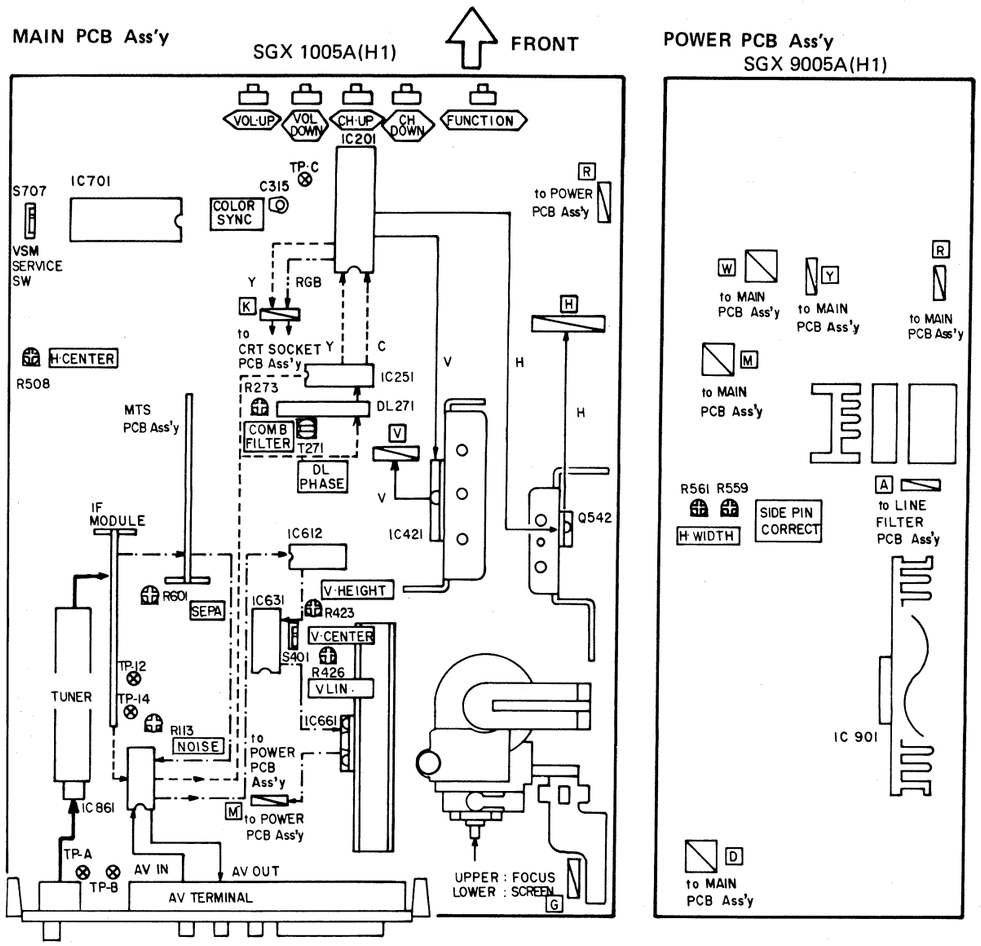
CRT SOCKET PCB Ass'y (BACK SIDE) SGX 3004A (H1)

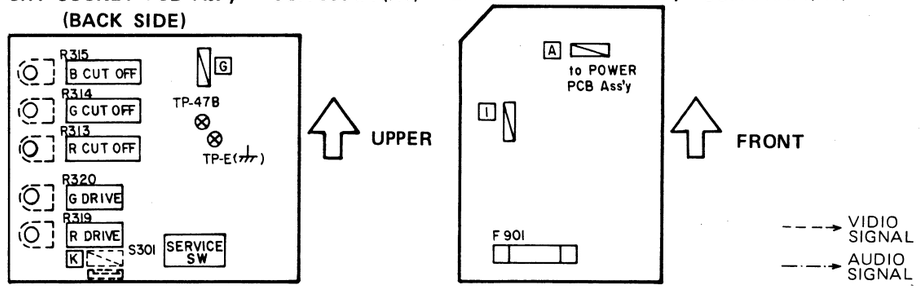


LINE FILTER PCB Ass'y SGX 9101A(H1)

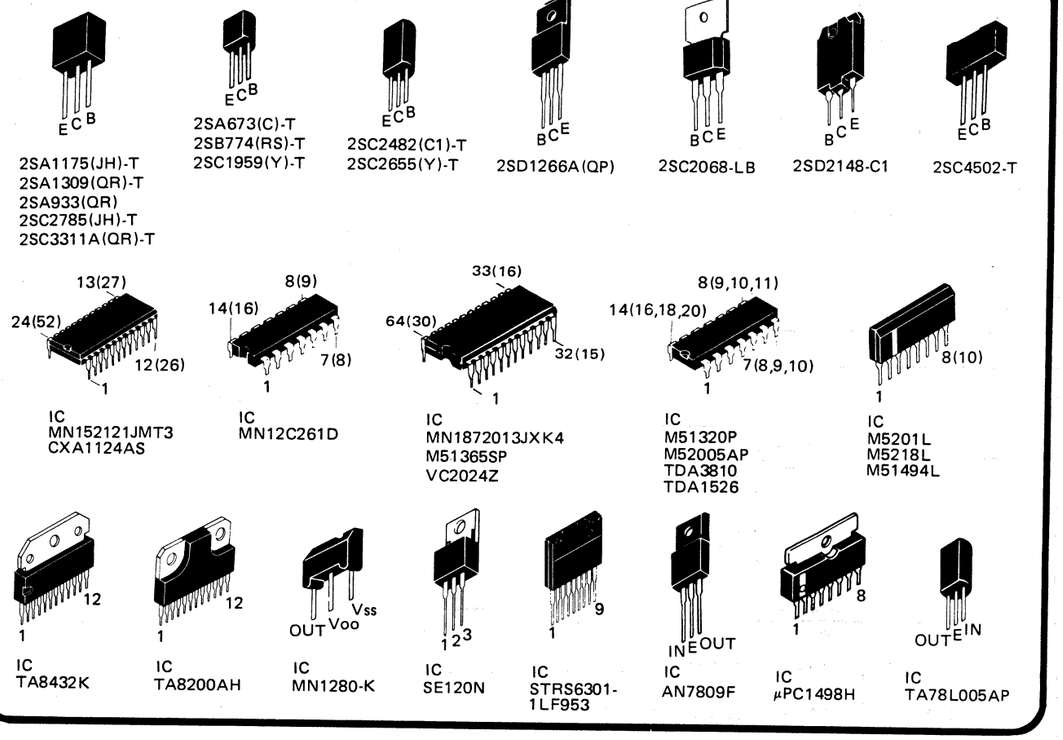


ALIGNMENT LOCATION





Basing of Transistor & ICs



■ CHANNEL CHART

MODE T	MODE V	MODE CATV	BAND	CHANNEL REAL	CHANNEL DISPLAY	TUNER BAND
○	○	○	VL	02		I
				03		
				04		
				05		
				06		
			VH	07		II
				08		
				09		
				10		
				11		
				12		
				13		
×	○	○	MID	A	14	I
				B	15	
				C	16	II
				D	17	
				E	18	
				F	19	
				G	20	
				H	21	
				I	22	
			SU PER	J	23	
				K	24	
				L	25	
				M	26	
				N	27	
				O	28	
				P	29	
				Q	30	
				R	31	
				S	32	
				T	33	
				U	34	
				V	35	
				W	36	

MODE T	MODE V	MODE CATV	BAND	CHANNEL REAL	CHANNEL DISPLAY	TUNER BAND
×	○	○	HY PER	W+ 1	37	II
				W+ 2	38	
				W+ 3	39	
				W+ 4	40	
				W+ 5	41	
				W+ 6	42	
				W+ 7	43	
				W+ 8	44	
				W+ 9	45	
				W+10	46	
				W+11	47	
				W+12	48	IV
				W+13	49	
				W+14	50	
				W+15	51	
				W+16	52	
				W+17	53	
				W+18	54	
				W+19	55	
				W+20	56	
				W+21	57	
				W+22	58	
				W+23	59	
				W+24	60	
				W+25	61	
				W+26	62	
				W+27	63	
				W+28	64	
			UL TRA	W+29	65	
				W+30	66	
				W+31	67	
				W+32	68	
				W+33	69	
				W+34	70	
				W+35	71	

MODE T	MODE V	MODE CATV	BAND	CHANNEL REAL	CHANNEL DISPLAY	TUNER BAND
×	○	○	UL TRA	W+36	72	IV
				W+37	73	
				W+38	74	
				W+39	75	
				W+40	76	
				W+41	77	
				W+42	78	
				W+43	79	
				W+44	80	
				W+45	81	
				W+46	82	
				W+47	83	
				W+48	84	
				W+49	85	
				W+50	86	
				W+51	87	
				W+52	88	
				W+53	89	
				W+54	90	
				W+55	91	
				W+56	92	
				W+57	93	
				W+58	94	
				W+59	100	
				W+60	101	
				W+61	102	
				W+62	103	
				W+63	104	
				W+64	105	
				W+65	106	
				W+66	107	
				W+67	108	
				W+68	109	
				W+69	110	
				W+70	111	

MODE T	MODE V	MODE CATV	BAND	CHANNEL REAL	CHANNEL DISPLAY	TUNER BAND
×	○	○	UL TRA	W+71	112	IV
				W+72	113	
				W+73	114	
				W+74	115	
				W+75	116	
				W+76	117	
				W+77	118	
				W+78	119	
				W+79	120	
				W+80	121	
				W+81	122	
				W+82	123	
				W+83	124	
				W+84	125	
			SUB MID	A - 8	01	I
				A - 4	96	
				A - 3	97	
				A - 2	98	
				A - 1	99	
○	×		UHF	14 ~ 69		IV

TOTAL 180 ch { VHF 124 ch / UHF 56 ch }

NOTE: TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES. SPECIAL ADAPTERS MAY BE REQUIED.

SCHEMATIC DIAGRAM

Ⓐ AV-3150S

AV TERMINAL ASS'Y

S-VIDEO IN

VIDEO

VIDEO

L/MONO

AUDIO

INPUT LINE OUT AUDIO OUT (VARIABLE)

VHF/UHF 75Ω

⚠TU701 AN3181EL-B01 VHF/CATV TUNER

IC001 TA78L005AP 5V REGULATOR

SGX-F003A IF MODULE

SIF DETECTOR

LIMITER

SOUND SAW FILTER

PICTURE SAW FILTER

PLL DETECTOR

EQUALIZER

FM DETECTOR

RF AGC

BLACK NOISE CANCELLER

NOISE

SX-6106A(H) MTS PCB ASS'Y

SEPARATION

IC831 MN12C201D MEMORY ON TIMER

IC841 GP1U721Q REMOCON SENSOR

Q701 ✻(2) ON TIMER DRIVE

D715 SL-5HD23 POWER ON TIMER

IC861 M51320P AV SELECT

IC611 M5218L AMP

IC611 (1/2)

IC611 (2/2)

Q861 ✻(2) BUFFER

Q862 ✻(2) SWITCH

Q863 2SC2878(B)-T SWITCH

Q864 ✻(3) SWITCH

Q865 2SC2878(B)-T SWITCH

Q603 ✻(1)

Q604 ✻(2) SWITCH

Q605 ✻(2) SWITCH

IC612 TDA3810 BIPHONIC

IC631 TDA1526 TONE/VOLUME CONTROL

Q642 ✻(3) SWITCH

Q651 ✻(2) SWITCH

Q656,Q657 ✻(2) MUTE

⚠IC661 TA8200AH AUDIO POWER AMP

Q641 ✻(2) SWITCH

Q654 ✻(2) SWITCH

Q655 ✻(3) SWITCH

Q291-Q293 BUFFER

Q291 ✻(3)

Q292 ✻(2)

Q293 2SA673(C)-T

Q211 ✻(2) SWITCH

Q741 ✻(2) SWITCH

IC201 VC2024Z VIDEO-CHROMA-DEF.SIGNAL PROCESSOR

IC251 M52005P S/C SWITCH, VNR, COMB FILTER

IC701 MN1872013JXK3 SENSOR CONTROL PROCESSOR

IC702 MN1280-K RESET

Q702 ✻(2) INVERTER

Q703 2SB774(RS)-T DETECTOR

Q704 2SB774(RS)-T DETECTOR

Q751 ✻(1)

Q752 ✻(1)

Q782 ✻(3) SYNC DETECTOR

Q781 ✻(2) BUFFER

Q921 2SC1959(Y)-T RELAY DRIVE

Q791 2SC2655(Y)-T REGULATOR

Q251 ✻(2) SWITCH

Q252 ✻(2) SWITCH

Q281 ✻(2) BUFFER

Q423 ✻(2) BUFFER

Q241 ✻(2) SCENE CONTROL

Q501 ✻(2) BUFFER

Q541 2SC2482(C)-T H.DRIVE

Q542 2SD2148-C(T) H.OUT

IC202 AN7809F 9V REGULATOR

⚠IC551 μPC2412HF 12V REGULATOR

⚠IC421 TA8432K VERT. OUT

IC201 (29) 2.5Vp-p (H)

IC201 (30) 1.5Vp-p (H)

IC201 (31) 4Vp-p (H)

IC201 (37) 0.4Vp-p 11μS/DIV

IC201 (20) 2.5Vp-p (H)

IC201 (18) 0.5Vp-p (H)

IC201 (12) 7.5Vp-p (V)

IC201 (14) 6Vp-p (H)

IC421 (6) 2Vp-p (V)

IC421 (5) 1.6Vp-p (V)

IC421 (8) 0.8Vp-p (V)

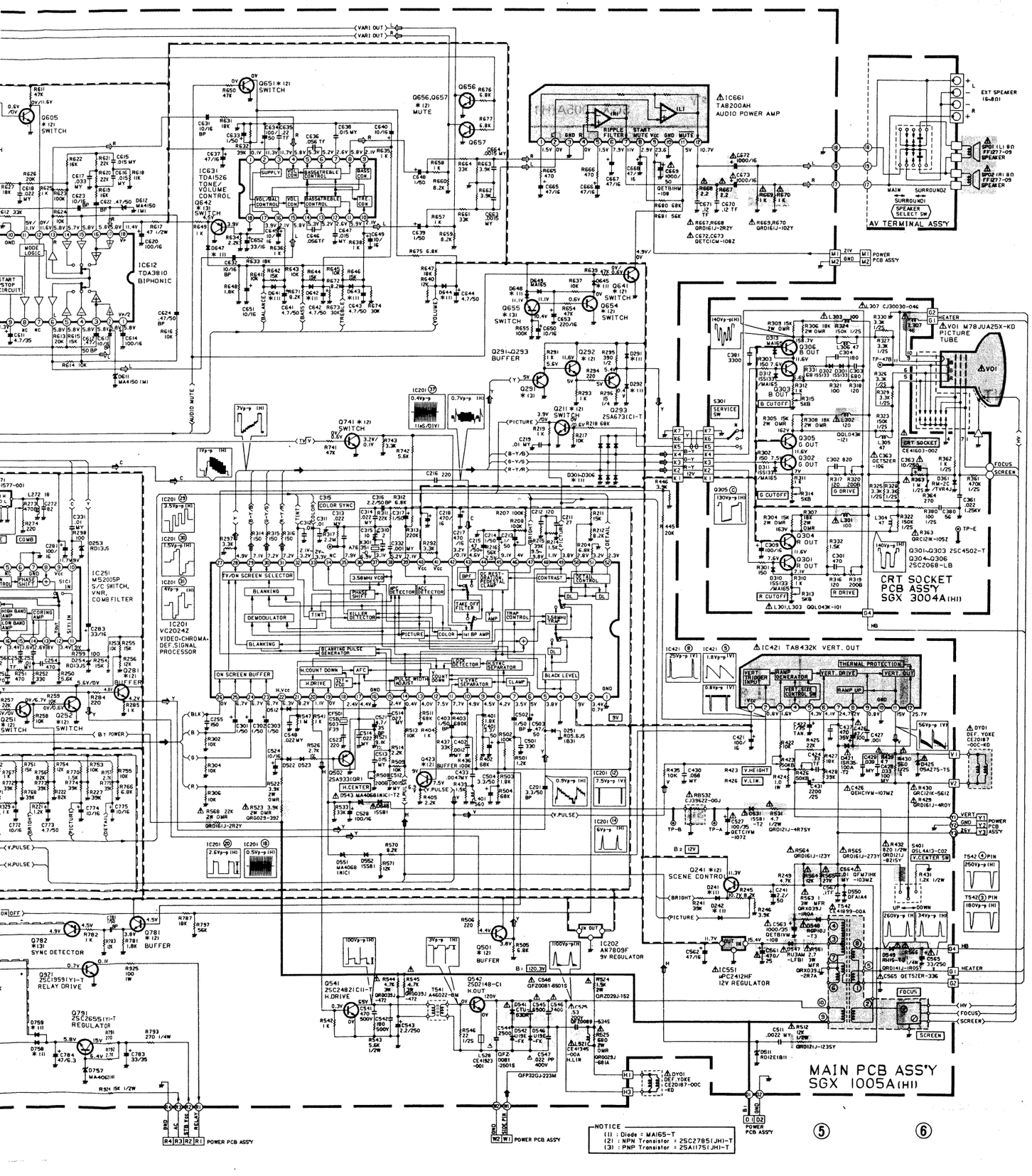
S702,S703 CHANNEL/LEVEL POWER FUNCTION UP DOWN VOL▲ VOL▼

S707 VSW SERVICE SWITCH

S301 SERVICE SW

MAIN PCB ASS'Y SG(1005A

NOTICE
(1) : Diode : MA165-T
(2) : NPN Transistor : 2SC2785(JH)-T
(3) : PNP Transistor : 2SA1175(JH)-T



NOTICE

(1) : Diode = MA165-T2
(2) : NPN Transistor = 2SC2785(JH)-T
(3) : PNP Transistor = 2SA1175(JH)-T

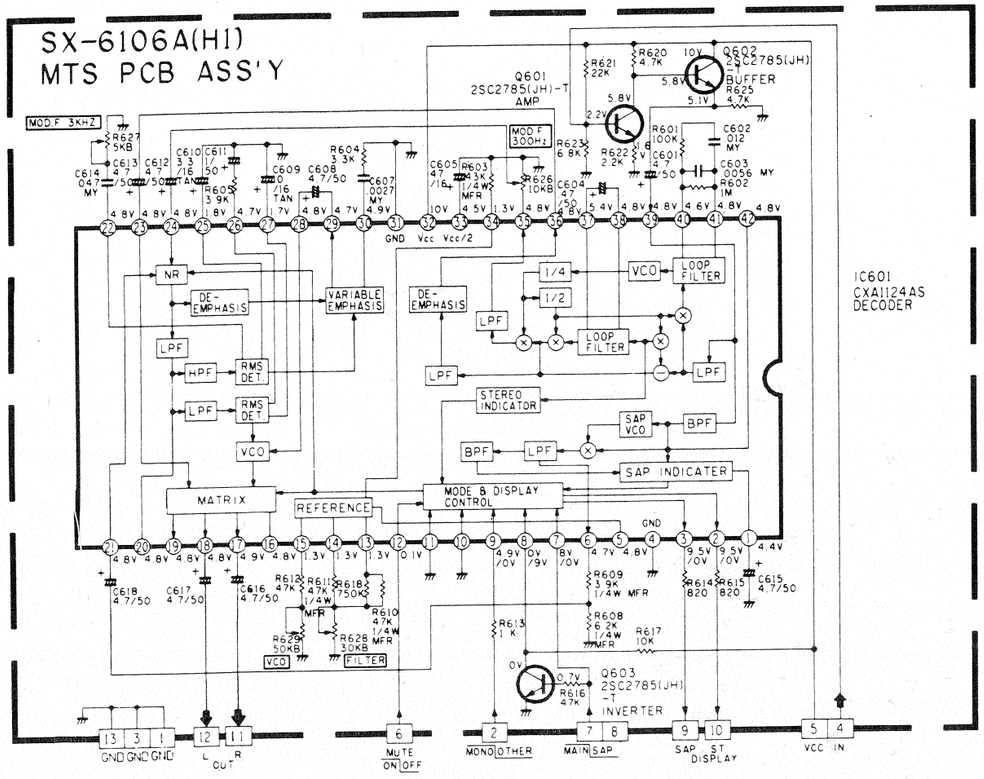
NOTE FOR SERVICE

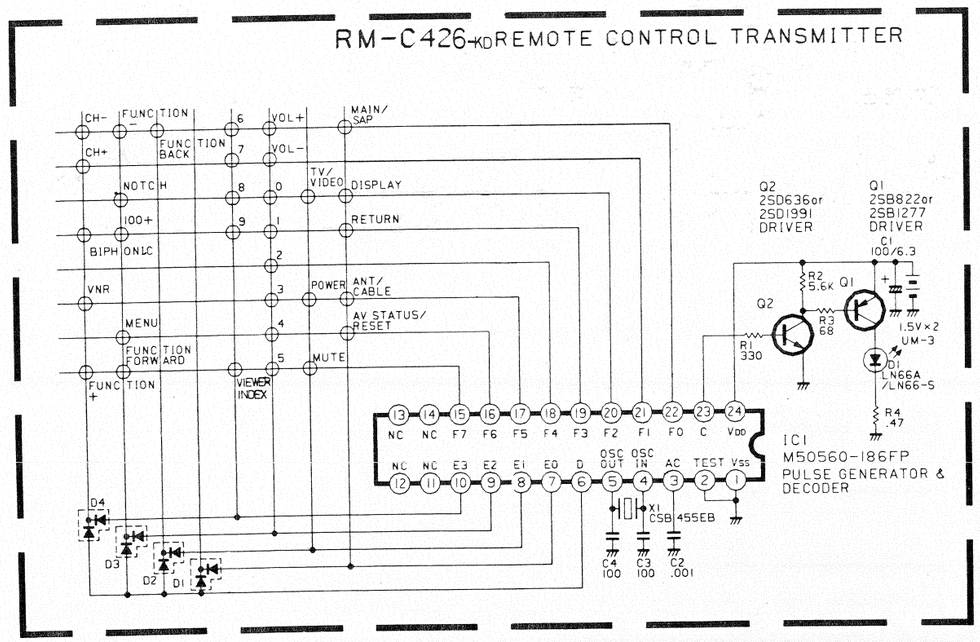
This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE (primary: ⊥) side GND and the NEUTRAL (secondary: ⏚) side GND.
Don't short between the LIVE side GND and NEUTRAL side GND or never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and NEUTRAL side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.

NOTICE
(1) : Diode = MA165-T
(2) : NPN Transistor = 2SC2785(JH)-T
(3) : PNP Transistor = 2SA1175(JH)-T

⑤ ⑥

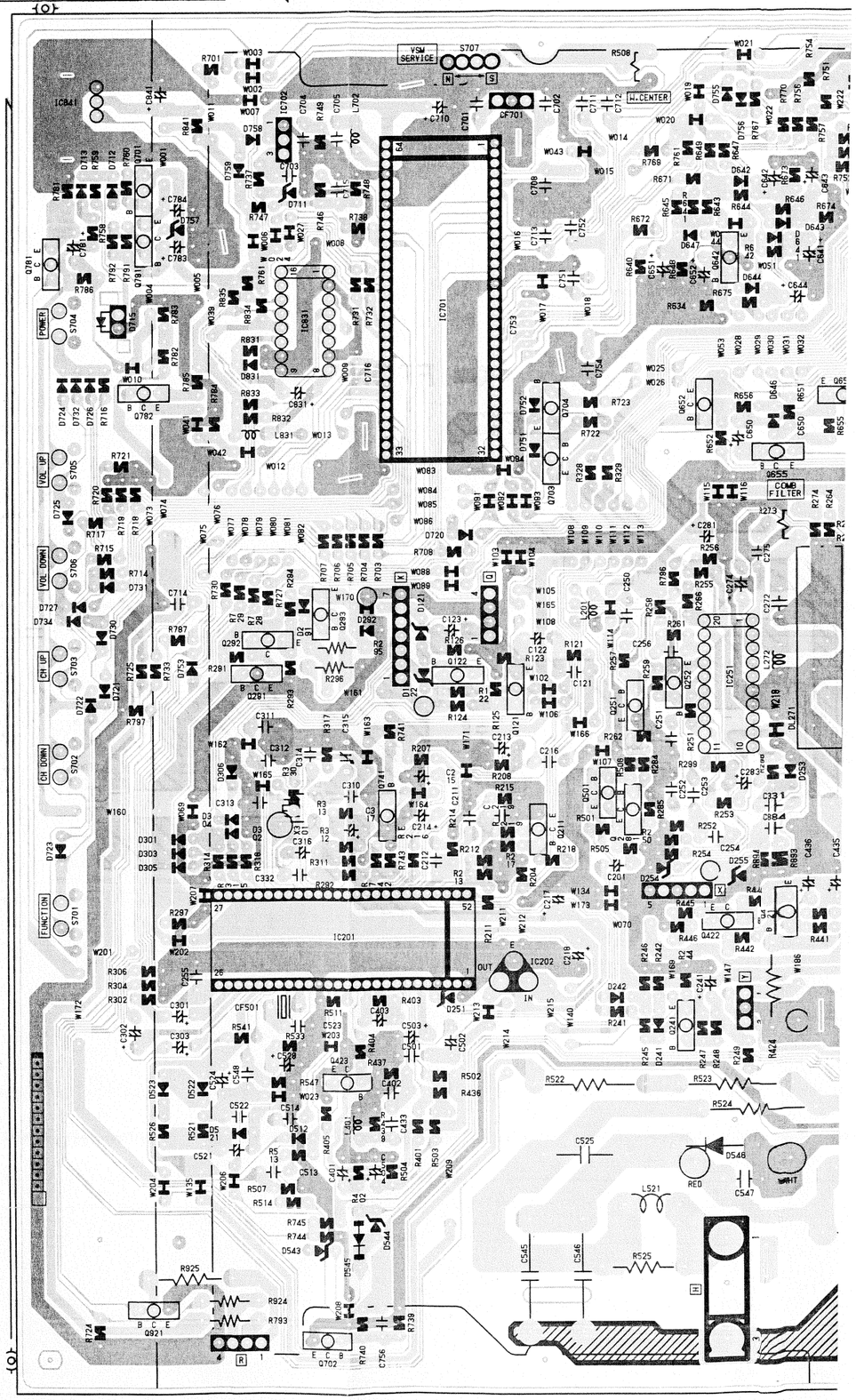
SCHEMATIC DIAGRAM





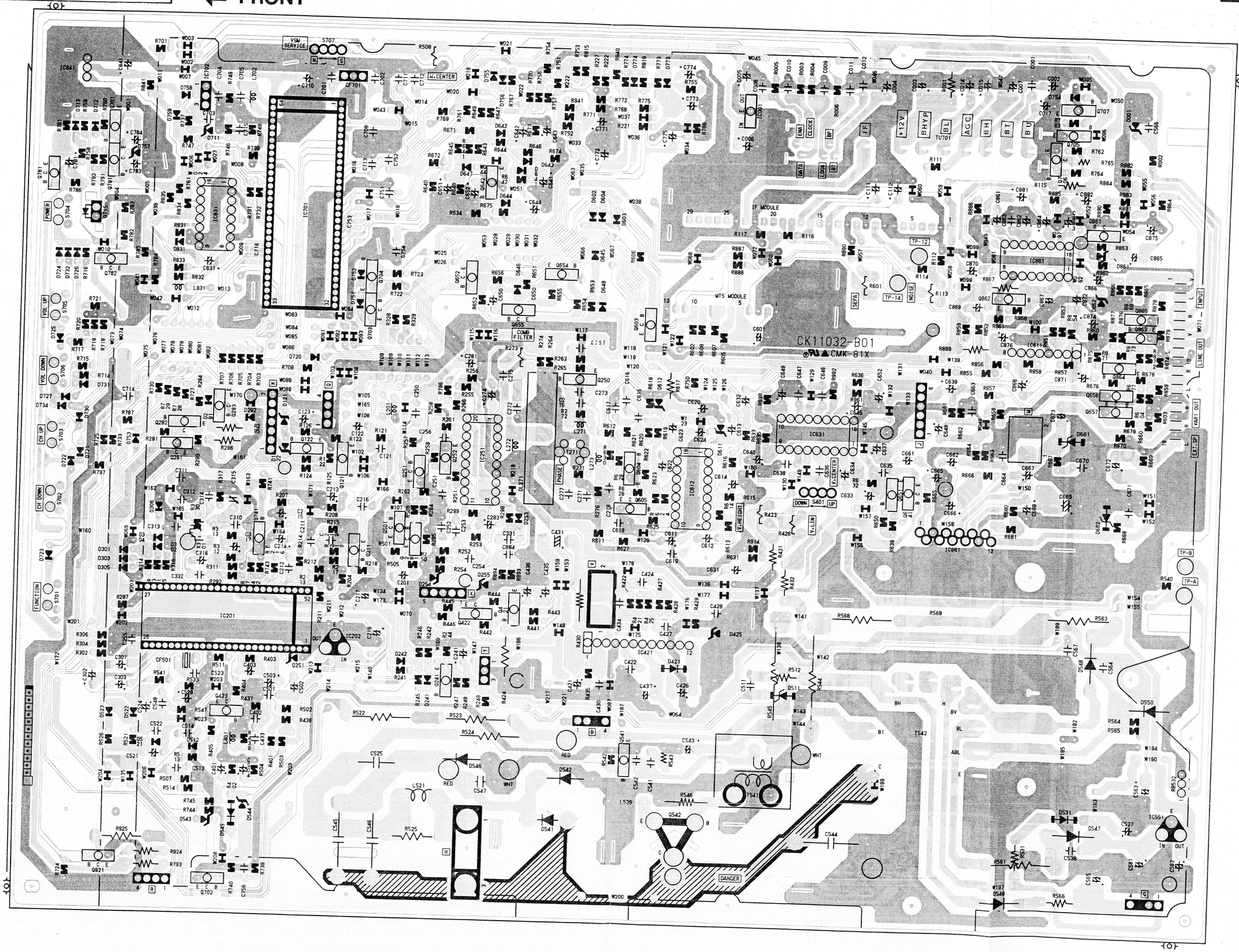
MAIN PCB BACK PATTERN

FRONT



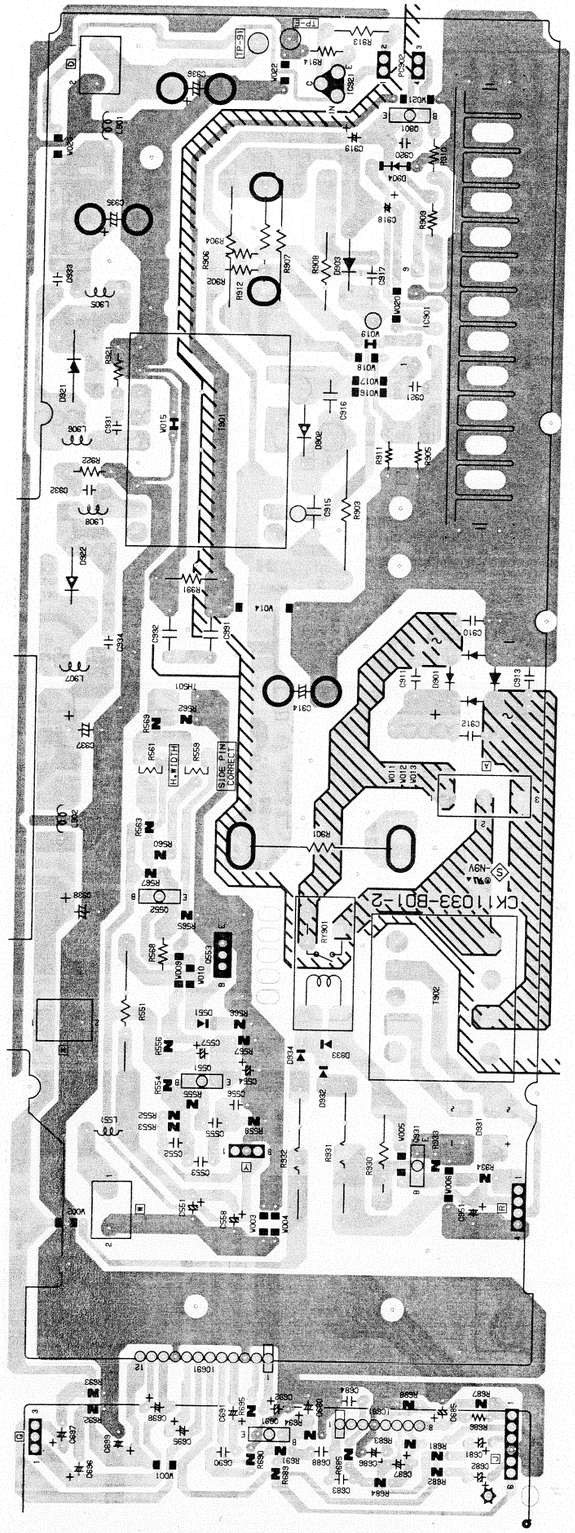
MAIN PCB BACK PATTERN

← FRONT



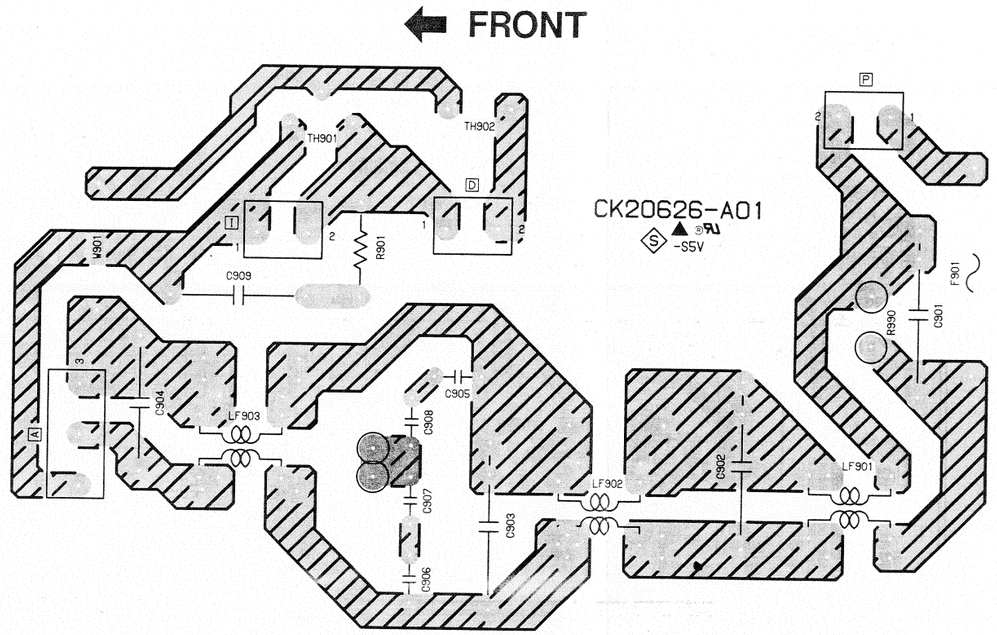
POWER PCB BACK PATTERN

FRONT

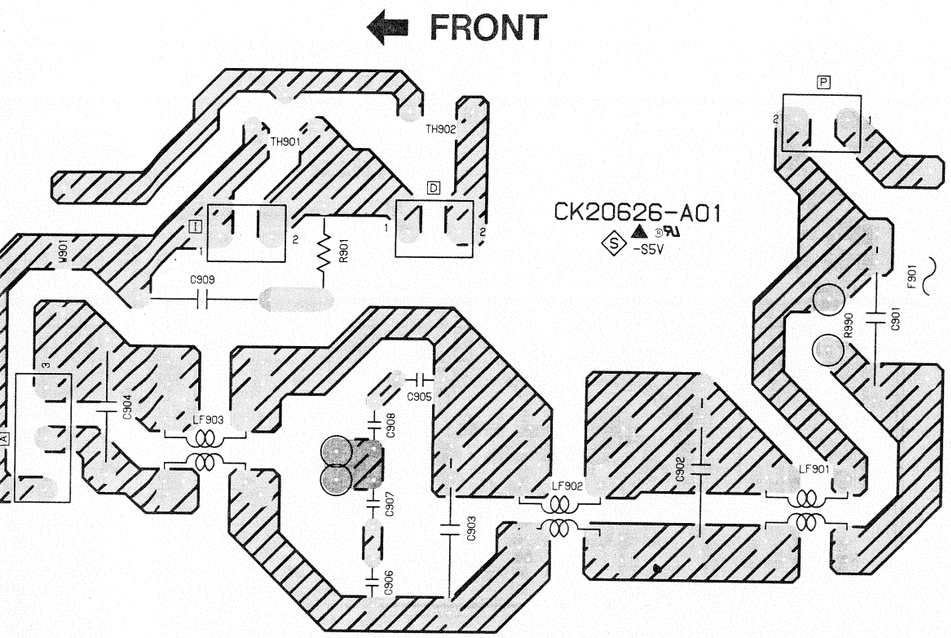


LINE FILTER PCB BACK PATTERN

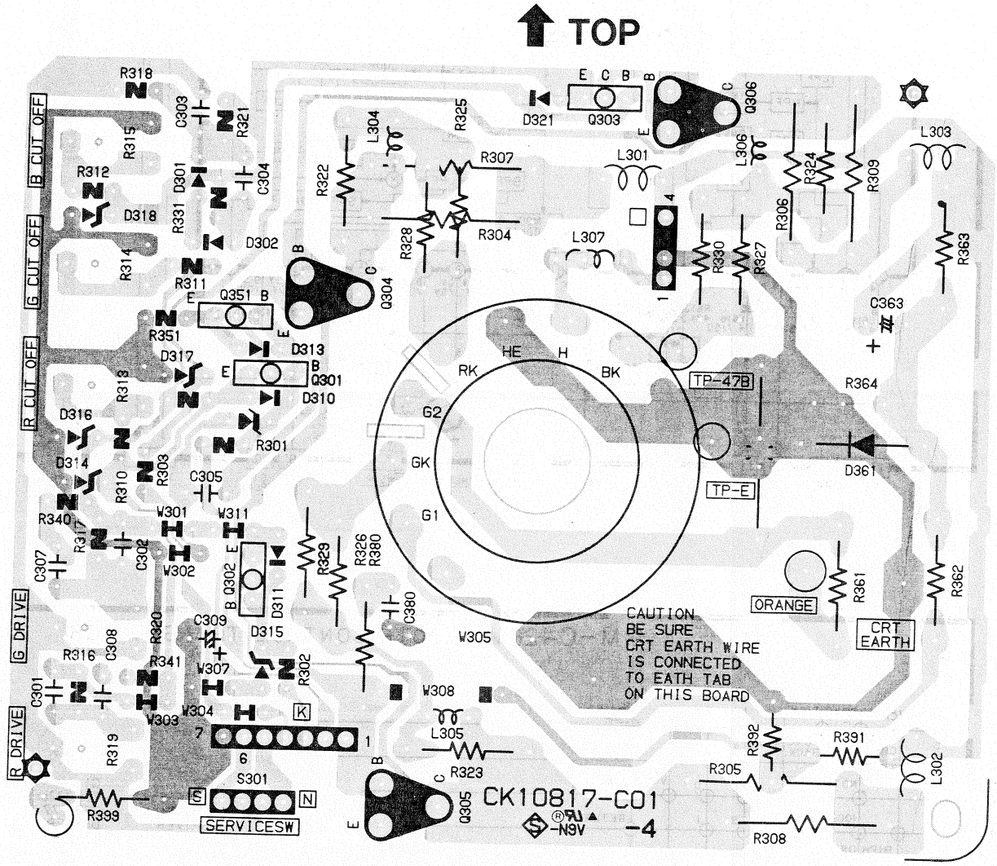
FRONT



ILTER PCB BACK PATTERN



CRT SOCKET PCB BACK PATTERN



JVC

SERVICE MANUAL

31" COLOR MONITOR / RECEIVER

AV-3150S(us)

BASIC CHASSIS
GX II

INFORMATION

In accordance with the production form change of the PARTS No.have been changed.
Therefore,we issued an amended PARTS LIST.
Please use the new PARTS LIST together with the existing original manual(No.50376 July 1990)

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No.50376B
Oct.1990

PARTS LIST

CAUTION

- The parts marked ⚠ are very important for the safety. When replacing these parts, be sure to use specified ones to secure the safety and performance.
- The module circuit board is supplied together with the assembly, but the parts which do not have the drawing in this Parts List, P. C. Board Ass'y and the Parts No. columns of which are filled with lines —— . will not be supplied.
- As a rule, the resistors and capacitors which are indicated as shown in (NOTE 2) "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board.
  When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to (NOTE 2).

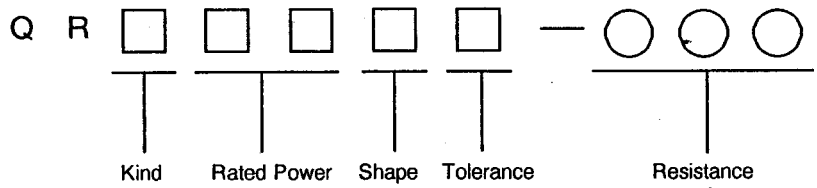
(NOTE 1) ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% - 10%	+50% - 10%	+80% - 20%	+100% - 0%

(NOTE 2) HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

■ RESISTOR



Symbol	Part Name
C	COMP.R
D	C R
S	CH MG R

Symbol	Rated Power
0 1	1 w
1 2	1/2 w
1 4	1/4 w
1 6	1/6 w
1 8	1/8 w

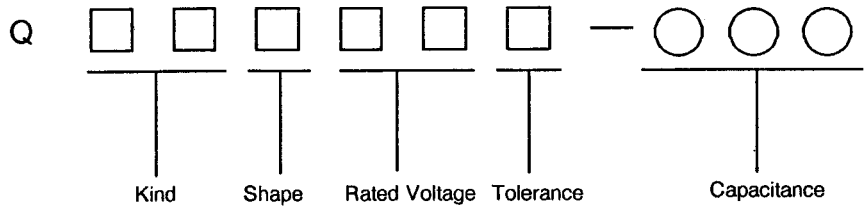
Symbol	Shape
1	Straight lead
8	Chip

Indicate with first two-figure expressed by Ω and following 0.
please note that,in case of resistance less than 10 Ω, a letter "R"will be effective as point.

EX.

2.2 Ω	=		2R2
470 Ω	=	47×10^{1} →	471
150kΩ	=	15×10^{4} →	154

■ CAPACITOR



Symbol	Part Name
CS	C CAP.
CS	CH C CAP.
ET	E CAP.
FM	M CAP.

5Figure / 6Figure	0	1	2
A		10V	100V
C		16V	160V
D			200V
E		25V	250V
H		50V	500V
J	6.3V	63V	
V		35V	

Indicate with first two-figure expressed by pF and following 0.
Please note that,in case of capacitance less than 10 pF a letter "R" will be effective as point.

EX

5pF	=		5R0
1000pF	=	10×10^{2} →	102
47μF	=	47×10^{6} →	476

Symbol	Shape
1	Straight lead
1	Leads in the same direction
8	Chip
A	Leads in the same direction (compact part)

MAIN PARTS LIST

SYMBOL NO.	⚠	PART NO.	PART NAME	REMARKS
CRT & TUNER				
		CE41596-00AJ1	WEDGE ASSY	X4 *
		A75034-B	P. C. MAGNET	
	⚠	CE20187-00C-KD	DEF YOKE	DY01
	⚠	CE41707-002	DEG COIL	L01
	⚠	AN3181EL-B01	TUNER	TU1701
	⚠	M78JUA25X-KD	PICTURE TUBE	V01 *
VARIABLE R				
R1113		QVPE610-203H	V R (NOISE)	20kΩ B
R1273		QVPA601-471A	V R (COMB. FILTER)	470 Ω B
R1423		QVPE610-103H	TRIM R (V. HEIGHT)	10kΩ B
R1426		QVPE610-503H	TRIM R (V. LIN)	50kΩ B
R1508		QVPE610-201H	TRIM R (H. CENTER)	200 Ω B
R1601		QVPE610-103H	V R (SEPA)	10kΩ B
R3313		QVPA803-502M	V R (R CUT OFF)	5kΩ B
R3314		QVPA803-502M	V R (G CUT OFF)	5kΩ B
R3315		QVPA803-502M	V R (B CUT OFF)	5kΩ B
R3319		QVPA803-201M	V R (R DRIVE)	200 Ω B
R3320		QVPA803-201M	V R (G DRIVE)	200 Ω B
R9559		QVPE610-203H	V R (SIDE PIN CORRECT)	20kΩ B
R9561	⚠	QVPE610-502H	V R (H. WIDTH)	5kΩ B
TRANSFORMER				
T1541		A46022-BM	HOR DRIVE TRANSF	
	⚠	CE41899-00A-KD	FBT	T1542
T9902	⚠	CE41741-002	POWER TRANSF.	
DIODE				
D1001		MA4330 (L) -T2	ZENER DIODE	
D1251		RD5.6JS (B3) -T2	ZENER DIODE	
D1253		RD13JS (B) -T2	ZENER DIODE	
D1254		RD13JS (B) -T2	ZENER DIODE	
D1255		MA4130 (M) -T2	ZENER DIODE	
D1425	⚠	05AZ75-T5	ZENER DIODE	
D1511		RD12E (B1) -T2	ZENER DIODE	
D1541	⚠	CTU-G3DR	DUMP DIODE	
D1543	⚠	MA4068 (N) C1-T2	ZENER DIODE	
D1551		MA4068 (N) C1	ZENER DIODE	
D1611		MA4150 (M) -T2	ZENER DIODE	
D1612		MA4150 (M) -T2	ZENER DIODE	
D1711		MA4051 (H) -T2	ZENER DIODE	
D1715		GL-5HD23	L. E. D.	POWER/ON TIMER IND.
D1757		MA4062 (H) -T2	ZENER DIODE	
D1861		MA4120 (M) -T2	ZENER DIODE	
D1862		RD13JS (B) -T2	ZENER DIODE	
D9901	⚠	S4VB40	SI DIODE STACK	
TRANSISTOR				
Q1542	⚠	2SD2148-C1	SI. TRANSISTOR	H. OUT
IC				
IC1001		TA78L005AP	I. C.	
IC1201		VC2024Z	I. C.	
IC1202		AN7809F	I. C.	
IC1251		M52005P	I. C. (M)	
IC1421	⚠	TA8432K	I. C.	
IC1551	⚠	UPC2412HF	I. C.	
IC1611		M5218L	I. C.	
IC1612		TDA3810	I. C.	
IC1631		TDA1526	I. C.	
IC1661	⚠	TA8200AH	I. C. (M)	

SYMBOL NO.	⚠	PART NO.	PART NAME	REMARKS
IC				
IC1701		MN1872013JXK4	I C	
IC1702		MN1280-K	I. C. (M)	
IC1831		MN12C261D	I C	
IC1841		GP1U721Q	IR DETECT UNIT	
IC1861		M51320P	I. C. (M)	
IC6601		CXA1124AS	I. C.	
IC9901	⚠	STRS6301-LF953	I. C.	
IC9921	⚠	SE120N	I. C.	
OTHERS				
		SX-6106A (H2)	MTS PCB ASSY	
		CM11597-0AA-MA	FRONT CABI ASSY	*
		CM33719-00E-VH	ANT. TERMINAL	
		CM33797-00A-KD	PUSH KNOB	
	⚠	QMP14C0-200J3	POWER CORD	*
		CM11599-031-MA	REAR COVER	*
CF1501		CSB503F38	C. RESONATOR	
CF1701		CST4. 00MGW	CERAMIC RESONATO	
DL1271		CE41577-001	DELAY LINE	
F9901	⚠	QMF66U1-4R0S	FUSE	
LF9901	⚠	CE40248-00B	LINE FILTER	
LF9902	⚠	CE41506-00BJ1	LINE FILTER	
LF9903	⚠	CE40847-00A	LINE FILTER	
PC9902	⚠	TLP621 (GB)	PHOTO COUPLER	
RY9901	⚠	CESK002-001	RELAY	
	⚠	EAS-12D116D-KD	CONE SPEAKER	X2, SP01, SP02
S1401		QSL4A13-C02	LEVER SWITCH	V. CENTER
S1701		QSP4H11-C03	PUSH SWITCH	FUNCTION
S1702		QSP4H11-C03	PUSH SWITCH	CH DOWN
S1703		QSP4H11-C03	PUSH SWITCH	CH UP
S1704		QSP4H11-C03	PUSH SWITCH	POWER
S1705		QSP4H11-C03	PUSH SWITCH	VOL UP
S1706		QSP4H11-C03	PUSH SWITCH	VOL DOWN
S1707		QSL4A13-C02	LEVER SWITCH	VSM SERVICE SW
S3301		QSL4A13-C02	LEVER SWITCH	SERVICE SW
TH9501		CE41696-332	P T C	
TH9901	⚠	CE40595-001	TH POSISTOR	
X1301		CE40668-001J1	CRYSTAL	

EXPLODED VIEW PARTS LIST

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
⚠	1	M78JUA25X-KD	PICTURE TUBE	V01 *
⚠	2	CE20187-00C-KD	DEF YOKE	DY01
⚠	3	CE41707-002	DEG COIL	L01
⚠	4	CE41899-00A-KD	FBT	T1542
⚠	5	AN3181EL-B01	TUNER	TU1701
⚠	6	EAS-12D116D-KD	CONE SPEAKER	X2, SP01, SP02
	7	CM11794-00A-M0	SP GRILLE ASSY	X2
⚠	8	QMP14C0-200J3	POWER CORD	*
	9	CM11599-031-MA	REAR COVER	*
	10	GBSB4016N	W TAP SCREW	X17 *
	11	CM44889-001-A	RATING LABEL	*
	12	CH30392-00C	BRIDED ASSY	
	13	CE41596-00AJ1	WEDGE ASSY	X4 *
	14	A75034-B	P. C. MAGNET	
	15	CM33798-001-V0	REMOCON WINDOW	
	16	CM21888-002-V0	KNOB HOLDER	
	17	CH43109-00A	BRAIDED SUB ASSY	
	18	CM33811-A01-V0	CORD PLATE	
	19	CM33797-00A-KD	PUSH KNOB	
	20	CM11597-0AA-MA	FRONT CABI ASSY	*
	21	CM43094-002	JVC MARK	

PRINTED CIRCUIT BOARD PARTS LIST

MAIN PC BOARD Ass'y (SGX1005A(H2))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS		
	VARIABLE R					
	R1113	QVPE610-203H	V R (NOISE)	20kΩ B		
	R1273	QVPA601-471A	V R (COMB. FILTER)	470 Ω B		
	R1423	QVPE610-103H	TRIM R (V. HEIGHT)	10kΩ B		
	R1426	QVPE610-503H	TRIM R (V. LIN)	50kΩ B		
	R1508	QVPE610-201H	TRIM R (H. CENTER)	200 Ω B		
	R1601	QVPE610-103H	V R (SEPA)	10kΩ B		
	RESISTOR					
⚠	RB1532	CJ39622-00J	R BLOCK			
	R1001	QRZ0074-100YJ2	C R	10 Ω	1/4W	J
	R1115	QRZ0074-150YJ2	C R	15 Ω	1/4W	J
	R1295	QRZ0075-391YJ2	C R	390 Ω	1/2W	J
	R1296	QRZ0074-150YJ2	C R	15 Ω	1/4W	J
	R1424	QRX019J-1R0S	MF R	1.0 Ω	1W	J
⚠	R1429	QRD161J-4R7YJ2	C R	4.7 Ω	1/6W	J
⚠	R1430	QRC121K-561Z	COMP. R	560 Ω	1/2W	K
	R1431	QRZ0075-122YJ2	C R	1.2kΩ	1/2W	J
⚠	R1432	QRZ0075-821YJ2	C R	820 Ω	1/2W	J
	R1512	QRZ0075-123YJ2	C R	12kΩ	1/2W	J
	R1521	QRV141F-1002AY	MF R	10kΩ	1/4W	F
	R1522	QRG029J-392	OM R	3.9kΩ	2W	J
⚠	R1523	QRG029J-392	OM R	3.9kΩ	2W	J
⚠	R1524	QRG029J-152	OM R	1.5kΩ	2W	J
⚠	R1525	QRG029J-681A	OM R	680 Ω	2W	J
	R1526	QRV141F-2701AY	MF R	2.7kΩ	1/4W	F
⚠	R1531	QRZ0075-4R7YJ2	C R	4.7 Ω	1/2W	J
	R1543	QRZ0090-562XJ2	C R	5.6kΩ	1/2W	J
⚠	R1544	QRG039J-472	OM R	4.7kΩ	3W	J
⚠	R1545	QRG039J-472	OM R	4.7kΩ	3W	J
⚠	R1561	QRX039J-2R7A	MF R	2.7 Ω	3W	J
⚠	R1563	QRX039J-1R0A	MF R	1.0 Ω	3W	J
⚠	R1564	QRD161J-123YJ2	C R	12kΩ	1/6W	J
⚠	R1565	QRD161J-273YJ2	C R	27kΩ	1/6W	J
⚠	R1566	QRZ0074-1R0YJ2	C R	1.0 Ω	1/4W	J
	R1568	QRG029J-223	OM R	22kΩ	2W	J
	R1617	QRZ0075-470YJ2	C R	47 Ω	1/2W	J
⚠	R1667	QRD161J-2R2YJ2	C R	2.2 Ω	1/6W	J
⚠	R1668	QRD161J-2R2YJ2	C R	2.2 Ω	1/6W	J
⚠	R1669	QRD161J-102YJ2	C R	1kΩ	1/6W	J
⚠	R1670	QRD161J-102YJ2	C R	1kΩ	1/6W	J
	R1793	QRZ0074-271YJ2	C R	270 Ω	1/4W	J
	R1867	QRZ0089-470XJ2	C R	47 Ω	1/4W	J
	R1889	QRZ0074-471YJ2	C R	470 Ω	1/4W	J
	R1924	QRZ0075-153YJ2	C R	15kΩ	1/2W	J
	R1925	QRG019J-101S	OM R	100 Ω	W	J
	CAPACITOR					
	C1003	QEM51CM-477M	E CAP.	470μF	16V	M
	C1111	QEK51HM-104GM	E CAP.	0.1μF	50V	M
	C1201	QEN61HM-335ZJ3	BP E CAP.	3.3μF	50V	M
	C1252	QFV71HJ-104MZ	TF CAP.	0.1μF	50V	J
	C1277	QFN31HK-472ZJ1	M CAP.	4700pF	50V	K
	C1315	QAT3110-100A	TRIM. CAP.	10pF	100V	
	C1316	QEN61HM-225ZJ3	BP E CAP.	2.2μF	50V	M
	C1332	QFN31HK-102ZJ1	M CAP.	1000pF	50V	K
	C1402	QFN31HK-122ZJ1	M CAP.	1200pF	50V	K
	C1403	QEN61HM-105ZJ3	BP E CAP.	1μF	50V	M
	C1421	QEHC1CM-107MZ	E CAP.	100μF	16V	M
	C1422	QEE61VK-105BZ	TAN. CAP.	1μF	35V	K
	C1424	QFV71HJ-334MZ	TF CAP.	0.33μF	50V	J

	SYMBOL NO.	PART NO.	PART NAME	REMARKS		
	CAPACITOR					
⚠	C1426	QEHC1VM-107MZ	E CAP.	100μF	35V	M
	C1433	QFN31HK-472ZJ1	M CAP.	4700pF	50V	K
	C1502	QEN61HM-105ZJ3	BP E CAP.	1μF	50V	M
	C1521	QEN61VM-475ZJ3	BP E CAP.	4.7μF	35V	M
⚠	C1525	QFZ0089-534S	MPP CAP.	0.53μF	200V	J
	C1543	QEH52EM-225M	E CAP.	2.2μF	250V	M
	C1544	QFZ0081-2501S	MPP CAP.	2500pF	1600V	±3%
⚠	C1545	QFZ0081-6501S	MPP CAP.	6500pF	1600V	±3%
	C1546	QFZ0081-7401S	MPP CAP.	7400pF	1600V	±3%
	C1547	QFP32GJ-223M	PP CAP.	0.022μF	400V	J
⚠	C1561	QETC1EM-477ZJ5	E CAP.	470μF	25V	M
⚠	C1563	QETB1VM-108J5	E CAP.	1000μF	35V	M
⚠	C1564	QFM71HK-103MZ	M CAP.	0.01μF	50V	K
⚠	C1565	QET52ER-336	E CAP.	33μF	250V	R
	C1567	QFV71HJ-104MZ	TF CAP.	0.1μF	50V	J
	C1612	QEN61HM-474ZJ3	BP E CAP.	0.47μF	50V	M
	C1613	QEN61CM-106ZJ3	BP E CAP.	10μF	16V	M
	C1622	QEN61HM-474ZJ3	BP E CAP.	0.47μF	50V	M
	C1623	QEN61CM-106ZJ3	BP E CAP.	10μF	16V	M
	C1624	QEN61HM-474ZJ3	BP E CAP.	0.47μF	50V	M
	C1631	QEN61CM-106ZJ3	BP E CAP.	10μF	16V	M
	C1632	QEN61CM-106ZJ3	BP E CAP.	10μF	16V	M
	C1635	QFV71HJ-224MZ	TF CAP.	0.22μF	50V	J
	C1636	QFV71HJ-563MZ	TF CAP.	0.056μF	50V	J
	C1646	QFV71HJ-563MZ	TF CAP.	0.056μF	50V	J
	C1663	QFN31HJ-152ZJ1	M CAP.	1500pF	50V	J
	C1664	QFN31HJ-152ZJ1	M CAP.	1500pF	50V	J
⚠	C1669	QETB1HM-108J5	E CAP.	1000μF	50V	M
	C1670	QFV71HJ-124MZ	TF CAP.	0.12μF	50V	J
	C1671	QFV71HJ-124MZ	TF CAP.	0.12μF	50V	J
⚠	C1672	QETC1CM-108ZJ5	E CAP.	1000μF	16V	M
⚠	C1673	QETC1CM-108ZJ5	E CAP.	1000μF	16V	M
	C1781	QEN61HM-105ZJ3	BP E CAP.	1μF	50V	M
	C1869	QEN61CM-106ZJ3	BP E CAP.	10μF	16V	M
	C1871	QEKC1HM-105GMZ	E CAP.	1μF	50V	M
	C1872	QEN61CM-106ZJ3	BP E CAP.	10μF	16V	M
	C1874	QEKC1CM-336MZ	E CAP.	33μF	16V	M
	TRANSFORMER					
	T1271	CE40176-001	DL P TRANSF.			
	T1541	A46022-BM	HOR DRIVE TRANSF			
	COIL					
	L1201	A76186-82Z-T	PEAKING COIL	82μH		
	L1271	A76186-22Z-T	PEAKING COIL	22μH		
	L1272	CE40041-180J1	PEAKING COIL	18μH		
	L1273	A76186-82Z-T	PEAKING COIL	82μH		
	L1401	A76186-560Z-T	PEAKING COIL	56μH		
⚠	L1521	CE41345-00A	LINEARITY COIL			
⚠	L1528	CE41923-001	CORE SLEEVE			
	L1702	CE40041-220ZJ1	PEAKING COIL	22μH		
	L1831	A76186-1.0Z-T	PEAKING COIL	1.0μH		
	DIODE					
	D1001	MA4330(L)-T2	ZENER DIODE			
	D1241	MA165-T2	SI. DIODE			
	D1242	MA165-T2	SI. DIODE			
	D1251	RD5.6JS(B3)-T2	ZENER DIODE			
	D1253	RD13JS(B)-T2	ZENER DIODE			
	D1254	RD13JS(B)-T2	ZENER DIODE			

SYMBOL NO.	PART NO.	PART NAME	REMARKS
DIODE			
D1255	MA4130 (M) -T2	ZENER DIODE	
D1291	MA165-T2	SI. DIODE	
D1292	MA165-T2	SI. DIODE	
D1301	MA165-T2	SI. DIODE	
D1302	MA165-T2	SI. DIODE	
D1303	MA165-T2	SI. DIODE	
D1304	MA165-T2	SI. DIODE	
D1305	MA165-T2	SI. DIODE	
D1306	MA165-T2	SI. DIODE	
⚠ D1421	1SR35-100A-T2	SI. DIODE	
⚠ D1425	05AZ75-T5	ZENER DIODE	
D1511	RD12E (B1) -T2	ZENER DIODE	
D1512	MA165-T2	SI. DIODE	
D1522	MA165-T2	SI. DIODE	
D1523	MA165-T2	SI. DIODE	
⚠ D1531	1SS81-T2	SI. DIODE	
⚠ D1541	CTU-G3DR	DUMP DIODE	
D1542	U19E-FK	SI. DIODE	
⚠ D1543	MA4068 (N) C1-T2	ZENER DIODE	
⚠ D1545	1SS81-T2	SI. DIODE	
⚠ D1546	U19E-FK	SI. DIODE	
⚠ D1547	RU3AM-LFB1	SI. DIODE	
⚠ D1548	RGP10J-T3	SI. DIODE	
⚠ D1549	RH1S-T3	SI. DIODE	
D1550	DFA1A4-T3	SI. DIODE	
D1551	MA4068 (N) C1	ZENER DIODE	
D1552	1SS81	SI. DIODE	
D1602	MA165-T2	SI. DIODE	
D1603	MA165-T2	SI. DIODE	
D1604	MA165-T2	SI. DIODE	
D1611	MA4150 (M) -T2	ZENER DIODE	
D1612	MA4150 (M) -T2	ZENER DIODE	
D1641	MA165-T2	SI. DIODE	
D1642	MA165-T2	SI. DIODE	
D1643	MA165-T2	SI. DIODE	
D1644	MA165-T2	SI. DIODE	
D1645	MA165-T2	SI. DIODE	
D1647	MA165-T2	SI. DIODE	
D1648	MA165-T2	SI. DIODE	
D1711	MA4051 (H) -T2	ZENER DIODE	
D1712	MA165-T2	SI. DIODE	
D1713	MA165-T2	SI. DIODE	
D1715	GL-5HD23	L. E. D.	POWER/ON TIMER IND.
D1720	MA165-T2	SI. DIODE	
D1721	MA165-T2	SI. DIODE	
D1722	MA165-T2	SI. DIODE	
D1723	MA165-T2	SI. DIODE	
D1724	MA165-T2	SI. DIODE	
D1725	MA165-T2	SI. DIODE	
D1726	MA165-T2	SI. DIODE	
D1731	MA165-T2	SI. DIODE	
D1732	MA165-T2	SI. DIODE	
D1751	MA165-T2	SI. DIODE	
D1752	MA165-T2	SI. DIODE	
D1753	MA165-T2	SI. DIODE	
D1755	MA165-T2	SI. DIODE	
D1756	MA165-T2	SI. DIODE	
D1757	MA4062 (H) -T2	ZENER DIODE	

SYMBOL NO.	PART NO.	PART NAME	REMARKS
DIODE			
D1758	MA165-T2	SI. DIODE	
D1759	MA165-T2	SI. DIODE	
D1831	MA165-T2	SI. DIODE	
D1861	MA4120 (M) -T2	ZENER DIODE	
D1862	RD13JS (B) -T2	ZENER DIODE	
TRANSISTOR			
Q1211	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1241	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1250	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1251	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1252	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1281	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1291	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1292	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1293	2SA673 (C) -T	SI. TRANSISTOR	
Q1423	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1501	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1541	2SC2482 (C1) -T	SI. TRANSISTOR	
⚠ Q1542	2SD2148-C1	SI. TRANSISTOR	H. OUT
Q1603	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1604	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1605	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1641	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1642	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1651	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1654	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1655	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1656	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1657	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1701	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1702	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1703	2SB774 (RS) -T	SI. TRANSISTOR	
Q1704	2SB774 (RS) -T	SI. TRANSISTOR	
Q1741	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1781	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1782	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1791	2SC2655 (Y) -T	SI. TRANSISTOR	
Q1861	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1862	2SC2785 (JH) -T	SI. TRANSISTOR	
Q1863	2SC2878 (B) -T	SI. TRANSISTER	
Q1864	2SA1175 (JH) -T	SI. TRANSISTOR	
Q1865	2SC2878 (B) -T	SI. TRANSISTER	
Q1921	2SC1959 (Y) -T	SI. TRANSISTER	
IC			
IC1001	TA78L005AP	I. C.	
IC1201	VC2024Z	I. C.	
IC1202	AN7809F	I. C.	
IC1251	M52005P	I. C. (M)	
⚠ IC1421	TA8432K	I. C.	
⚠ IC1551	UPC2412HF	I. C.	
IC1611	M5218L	I. C.	
IC1612	TDA3810	I. C.	
IC1631	TDA1526	I. C.	
⚠ IC1661	TA8200AH	I. C. (M)	
IC1701	MN1872013JXK4	I C	
IC1702	MN1280-K	I. C. (M)	
IC1831	MN12C261D	I C	
IC1841	GP1U721Q	IR DETECT UNIT	

SYMBOL NO.	PART NO.	PART NAME	REMARKS
IC			
IC1861	M51320P	I. C. (M)	
OTHERS			
	SX-6106A (H2)	MTS PCB ASSY	
	CM33719-00E-VH	ANT. TERMINAL	
CF1501	CSB503F38	C. RESONATOR	
CF1701	CST4. 00MGW	CERAMIC RESONATO	
DL1271	CE41577-001	DELAY LINE	
S1401	QSL4A13-C02	LEVER SWITCH	V. CENTER
S1701	QSP4H11-C03	PUSH SWITCH	FUNCTION
S1702	QSP4H11-C03	PUSH SWITCH	CH DOWN
S1703	QSP4H11-C03	PUSH SWITCH	CH UP
S1704	QSP4H11-C03	PUSH SWITCH	POWER
S1705	QSP4H11-C03	PUSH SWITCH	VOL UP
S1706	QSP4H11-C03	PUSH SWITCH	VOL DOWN
S1707	QSL4A13-C02	LEVER SWITCH	VSM SERVICE SW
X1301	CE40668-001J1	CRYSTAL	

MTS PC BOARD Ass'y (SX-6106A(H2))

This pc boards are supplied as assemblies.

The component parts only the PC boards are available only when the parts are listed in the " PRINTED CIRCUIT BOARD PARTS LIST".

SYMBOL NO.	PART NO.	PART NAME	REMARKS		
RESISTOR					
R6603	QRV141F-4302AY	MF R	43kΩ	1/4W	F
R6608	QRV141F-6201AY	MF R	6. 2kΩ	1/4W	F
R6609	QRV141F-3901AY	MF R	3. 9kΩ	1/4W	F
R6610	QRV141F-4702AY	MF R	47kΩ	1/4W	F
R6611	QRV141F-4702AY	MF R	47kΩ	1/4W	F
CAPACITOR					
C6601	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
C6603	QFN31HK-562ZJ1	M CAP.	5600pF	50V	K
C6604	QEKC1HM-474GMZ	E CAP.	0. 47μF	50V	M
C6605	QEKC1CM-476MZ	E CAP.	47μF	16V	M
C6607	QFN31HK-272ZJ1	M CAP.	2700pF	50V	K
C6608	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
C6609	QEE61CK-106BZ	TAN. CAP.	10μF	16V	K
C6610	QEE61CK-335BZ	TAN. CAP.	3. 3μF	16V	K
C6611	QEKC1HM-105GMZ	E CAP.	1μF	50V	M
C6612	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
C6613	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
C6615	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
C6616	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
C6617	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
C6618	QEKC1HM-475GMZ	E CAP.	4. 7μF	50V	M
TRANSISTOR					
Q6601	2SC2785 (JH) -T	SI. TRANSISTOR			
Q6602	2SC2785 (JH) -T	SI. TRANSISTOR			
Q6603	2SC2785 (JH) -T	SI. TRANSISTOR			
IC					
IC6601	CXA1124AS	I. C.			

CRT SOCKET PC BOARD Ass'y (SGX3004A(H2))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	VARIABLE R			
	R3313	QVPA803-502M	V R (R CUT OFF)	5kΩ B
	R3314	QVPA803-502M	V R (G CUT OFF)	5kΩ B
	R3315	QVPA803-502M	V R (B CUT OFF)	5kΩ B
	R3319	QVPA803-201M	V R (R DRIVE)	200 Ω B
	R3320	QVPA803-201M	V R (G DRIVE)	200 Ω B
	RESISTOR			
	R3304	QRG029J-153	OM R	15kΩ 2W J
	R3305	QRG029J-153	OM R	15kΩ 2W J
	R3306	QRG029J-183	OM R	18kΩ 2W J
	R3307	QRG029J-183	OM R	18kΩ 2W J
	R3308	QRG029J-183	OM R	18kΩ 2W J
	R3309	QRG029J-153	OM R	15kΩ 2W J
	R3325	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3326	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3327	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3328	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3329	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
	R3330	QRZ0056-332Z	COMP. R	3.3kΩ 1/2W K
⚠	R3363	QRC121K-105Z	COMP. R	1MΩ 1/2W K
	R3364	ERZ-C05VK271Z	ZINC. N. R	270 Ω
	CAPACITOR			
	C3361	QFH63BK-223M	MM CAP.	0.022μF 1250V K
⚠	C3363	QET52ER-106	E CAP.	10μF 250V R
	COIL			
⚠	L3301	QQL043K-101	PEAKING COIL	100μH
⚠	L3302	QQL043K-121	PEAKING COIL	120μH
⚠	L3303	QQL043K-101	PEAKING COIL	100μH
	L3304	A76186-47Z-T	PEAKING COIL	47μH
	L3305	A76186-47Z-T	PEAKING COIL	47μH
	L3306	A76186-47Z-T	PEAKING COIL	47μH
⚠	L3307	CJ30030-046	HEATER CHOKE	
	DIODE			
	D3301	1SS133-T2	SI. DIODE	
	D3302	1SS133-T2	SI. DIODE	
	D3310	1SS133-T2	SI. DIODE	
	D3311	1SS133-T2	SI. DIODE	
	D3312	1SS133-T2	SI. DIODE	
	D3361	RM2C-LFA1	SI. DIODE	
	TRANSISTOR			
	Q3301	2SC4502-T	SI. TRANSISTOR	
	Q3302	2SC4502-T	SI. TRANSISTOR	
	Q3303	2SC4502-T	SI. TRANSISTOR	
	Q3304	2SC2068-LB	SI. TRANSISTOR	
	Q3305	2SC2068-LB	SI. TRANSISTOR	
	Q3306	2SC2068-LB	SI. TRANSISTOR	
	OTHERS			
⚠		CE41603-002	CRT SOCKET	
	S3301	QSL4A13-C02	LEVER SWITCH	SERVICE SW

POWER PC BOARD Ass'y (SGX9005A(H2))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	VARIABLE R			
	R9559	QVPE610-203H	V R (SIDE PIN COR	RECT) 20kΩ B
⚠	R9561	QVPE610-502H	V R (H. WIDTH)	5kΩ B
	RESISTOR			
	R9551	QRX039J-4R7A	MF R	4.7 Ω 3W J
⚠	R9554	QRD161J-184YJ2	C R	180kΩ 1/6W J
⚠	R9556	QRD161J-153YJ2	C R	15kΩ 1/6W J
⚠	R9567	QRD161J-392YJ2	C R	3.9kΩ 1/6W J
⚠	R9568	QRZ0075-472YJ2	C R	4.7kΩ 1/2W J
⚠	R9901	QRF104K-1R0J5	UNF R	1.0 Ω 10W K
	R9902	QRZ0075-224YJ2	C R	220kΩ 1/2W J
⚠	R9903	QRG039J-333	OM R	33kΩ 3W J
⚠	R9904	QRZ0075-564YJ2	C R	560kΩ 1/2W J
	R9905	QRM055K-R22	MP R	0.22 Ω 5W K
	R9906	QRG039J-220	OM R	22 Ω 3W J
	R9907	QRG039J-180	OM R	18 Ω 3W J
	R9908	QRX029J-8R2	MF R	8.2 Ω 2W J
	R9909	QRD149J-561SJ2	C R	560 Ω 1/4W J
	R9910	QRD149J-471SJ2	C R	470 Ω 1/4W J
	R9911	QRZ0086-R05	MP R	0.05 Ω 5W K
⚠	R9913	QRG019J-223S	OM R	22kΩ 1W J
	R9914	QRD149J-101SJ2	C R	100 Ω 1/4W J
⚠	R9922	QRZ0075-561YJ2	C R	560 Ω 1/2W J
	R9931	QRG029J-271	OM R	270 Ω 2W J
⚠	R9932	QRG039J-181A	OM R	180 Ω 3W J
⚠	R9991	QRC121K-275EZ	COMP. R	2.7MΩ 1/2W K
	CAPACITOR			
	C9551	QEM61HK-106MZ	E CAP.	10μF 50V K
	C9553	QFZ0083-683MZ	M CAP.	0.068μF 50V K
	C9555	QFZ0083-683MZ	M CAP.	0.068μF 50V K
	C9556	QFN31HK-682ZJ1	M CAP.	6800pF 50V K
⚠	C9557	QETC1VM-476ZJ3	E CAP.	47μF 35V M
⚠	C9910	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9911	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9912	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9913	QCZ9033-102A	C CAP.	1000pFAC125V K
⚠	C9914	QEZ0145-687R	E CAP.	680μF 200V M
⚠	C9915	QFP32GK-103M	PP CAP.	0.01μF 400V K
⚠	C9916	QFP32JK-222M	PP CAP.	2200pF 630V K
	C9917	QFN32DK-333J1	M CAP.	0.033μF 200V K
	C9918	QEHB2AM-107M	E CAP.	100μF 100V M
	C9920	QFV81HJ-105M	TF CAP.	1μF 50V J
⚠	C9921	QCS32HJ-331UZ	CH C CAP.	330pF 500V J
⚠	C9931	QCY32HK-561AZ	CH C CAP.	560pF 500V K
⚠	C9933	QCZ0128-152A	C CAP.	1500pF 500V K
⚠	C9934	QCY31HK-102ZJ5	CH C CAP.	1000pF 50V K
⚠	C9935	QEH72DM-477M	E CAP.	470μF 200V M
⚠	C9936	QEH72DM-477M	E CAP.	470μF 200V M
⚠	C9937	QETB1VM-338J5	E CAP.	3300μF 35V M
⚠	C9938	QETB1VM-338J5	E CAP.	3300μF 35V M
⚠	C9991	QCZ9029-103M	C CAP.	0.01μFAC125V M
⚠	C9992	QCZ9029-103M	C CAP.	0.01μFAC125V M
	TRANSFORMER			
⚠	T9901	CE41922-A01	SW TRANSF	
⚠	T9902	CE41741-002	POWER TRANSF.	
	COIL			
	L9551	CELC009-001	WIDTH COIL	
⚠	L9901	CJ30030-100	HEATER CHOKE	
⚠	L9902	CJ30030-100	HEATER CHOKE	

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	COIL			
	L9904	CE40107-001	CORD SLEEVE	
	DIODE			
⚠	D9901	S4VB40	SI DIODE STACK	
⚠	D9902	RU2-LFA1	SI. DIODE	
	D9903	DFA1A4-T3	SI. DIODE	
	D9904	1SS81-T2	SI. DIODE	
⚠	D9921	RU4AM-LFK2	SI. DIODE	
⚠	D9922	RU4YX-LFK2	SI. DIODE	
	D9931	S1WB10	SI. DIODE	
	D9932	MA165-T2	SI. DIODE	
	D9933	MA165-T2	SI. DIODE	
	D9934	MA165-T2	SI. DIODE	
	TRANSISTOR			
	Q9551	2SC3311A (QR) -T	SI. TRANSISTOR	
	Q9552	2SA1309A (QR) -T	SI. TRANSISTOR	
	Q9553	2SD1266A (QP)	SI. TRANSISTOR	
	Q9901	2SC1815 (YG) -T	SI. TRANSISTOR	
	IC			
⚠	IC9901	STRS6301-LF953	I. C.	
⚠	IC9921	SE120N	I. C.	
	OTHERS			
⚠	PC9902	TLP621 (GB)	PHOTO COUPLER	
⚠	RY9901	CESK002-001	RELAY	
	TH9501	CE41696-332	P T C	

LINE FILTER PC BOARD Ass'y (SGX9101A(H2))

	SYMBOL NO.	PART NO.	PART NAME	REMARKS
	RESISTOR			
⚠	R9901	QRC122K-102	COMP. R	1kΩ 1/2W K
	R9990	ERZ-C10DK361U	ZINC N R	
	CAPACITOR			
⚠	C9901	QFZ9022-104M	MF CAP.	0.1μFAC250V M
⚠	C9902	QFZ9022-473M	MF CAP.	0.047μFAC250V M
⚠	C9903	QFZ9022-473M	MF CAP.	0.047μFAC250V M
⚠	C9904	QFZ9022-473M	MF CAP.	0.047μFAC250V M
⚠	C9905	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9906	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9907	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9908	QCZ9033-222A	C CAP.	2200pFAC125V K
⚠	C9909	QFZ9022-473M	MF CAP.	0.047μFAC250V M
	OTHERS			
⚠	F9901	QMF66U1-4R0S	FUSE	
⚠	LF9901	CE40248-00B	LINE FILTER	
⚠	LF9902	CE41506-00BJ1	LINE FILTER	
⚠	LF9903	CE40847-00A	LINE FILTER	
⚠	TH9901	CE40595-001	TH POSISTOR	

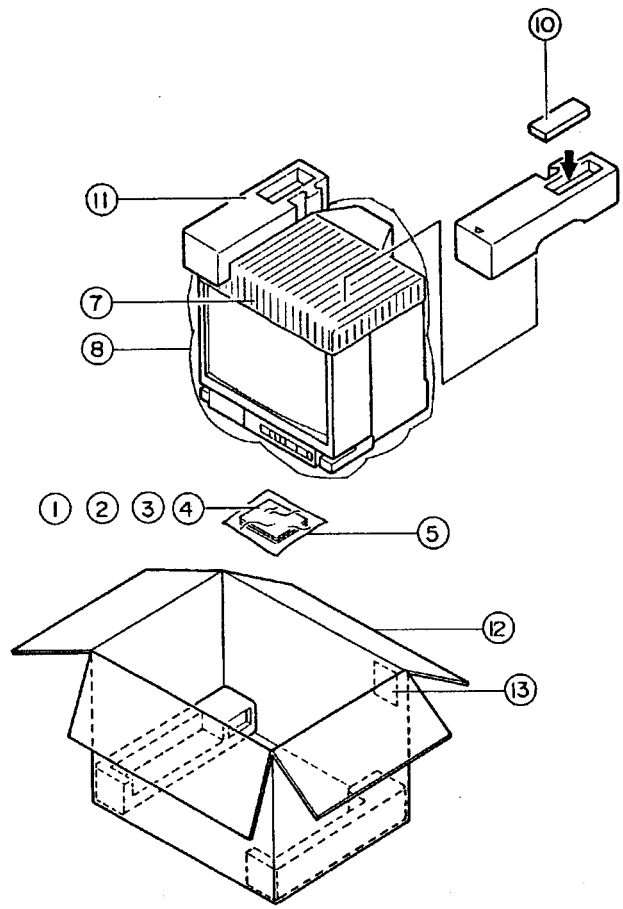
MODULE PC BOARD PARTS LIST

The following module pc boards are supplied as assemblies.

The component parts only the module PC boards are available only when the parts are listed in the "MODULE PRINTED CIRCUIT BOARD PARTS LIST".

IF MODULE PC BOARD Ass'y (SGX-F003A)

PACKING



PACKING PARTSLIST

SYMBOL NO.	PART NO.	PART NAME	REMARKS	
1	CM21229-B01	SAFETY TIPS		
2	BT-20113A	WARRANTY CARD		
3	BT-20108A	SERVICE INF CARD		
4	AV3150S-US-IBA	INST BOOK		
5	CM30751-010	POLY. BAG		
7	CP30055-002-A	TOP COVER		*
8	CP30056-004-A	POLY BAG		*
10	RM-C426-KD	RC HAND PIECE		
11	CP10851-00A-A	CUSHION ASSY	4pcs in 1set	*
12	CP10972-007-A	PACKING CASE		*
13	CM20926-00A-A	REC KEEPING CARD		*

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